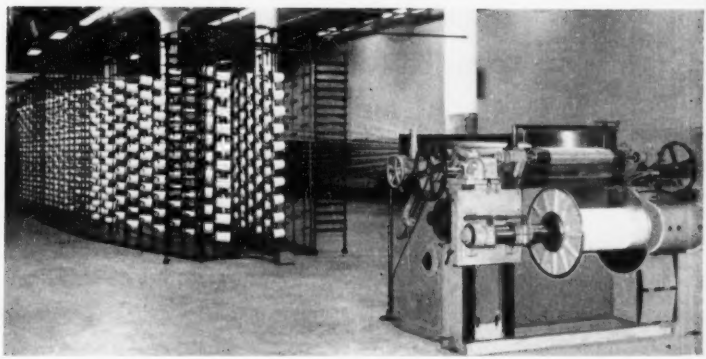
MARCH, 1952

Textile Industries

COTTON
Textile Industries

The Cocker High Speed Tricot Warper



s illustration shows a Cocker High Speed Tricot Warper for handling beams 21″ x 21″ . . . with gazine Cone Creel and Electric Eyeboard Stop Motion. This machine can also be built to handle beams ″ between flanges, with 21″ diameter flanges.

Warper is of extra heavy construction with simple and efficient beam doffing, variable speed D. C. ve, presser roll located back of the beam . . . out of the way of the operator.

uded in this equipment is the electronic relay stop motion, patented by Deering, Milliken Research it and manufactured by Cocker . . . the most sensitive and efficient stop motion on the market.

te or wire for full information on the many other advantages of this Cocker High Speed Tricot Warper.

Simple
Efficient
Safe

THE LEADER
COCKER
AROUND THE WORLD

Machine and Foundry Co., Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE
WARP PREPARATORY EQUIPMENT

"You're Right!

Your Business Is Different!"

Each business has its own peculiar problems.

That is why Commercial's factoring is so flexible —a modern method of financing—suited to your particular needs. Immediate working capital is made available through your accounts receivable. Cash is forwarded to you as shipments are made. Yet you sell on your regular terms. Credit losses and collection expense are assumed by us.

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T. HOLT HAYWOOD, WINSTON-SALEM, NORTH CAROLINA

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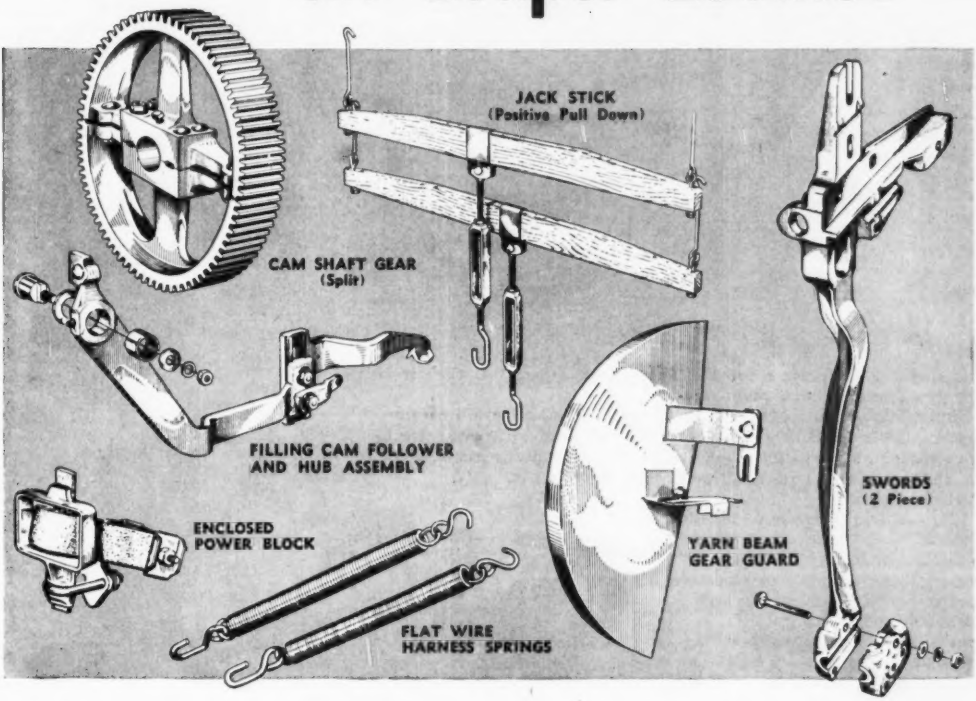
Volume 116 Number 3

Why Draper Repair Parts for Draper Looms?



When you buy repair parts for your car, you buy the parts from the manufacturer of the car.

When you buy repair parts for your looms, do you buy them from the manufacturer of the looms?

Draper repair parts are designed by the same engineers who designed your looms.

Draper repair parts are dependable because they have the Draper "know-how" standing behind them. Who better knows where the stresses and strains will occur than the designer of the original loom?

Draper repair parts are uniform because they are machined on the same jigs and fixtures. Therefore they fit.

Why take a chance? Treat your looms as you do your car and buy the best repair parts available — Draper Improved Repair Parts.

DRAPER CORPORATION

"Retaining Leadership through Research"

ATLANTA, GA. **HOPEDALE, MASS.** **SPARTANBURG, S. C.**

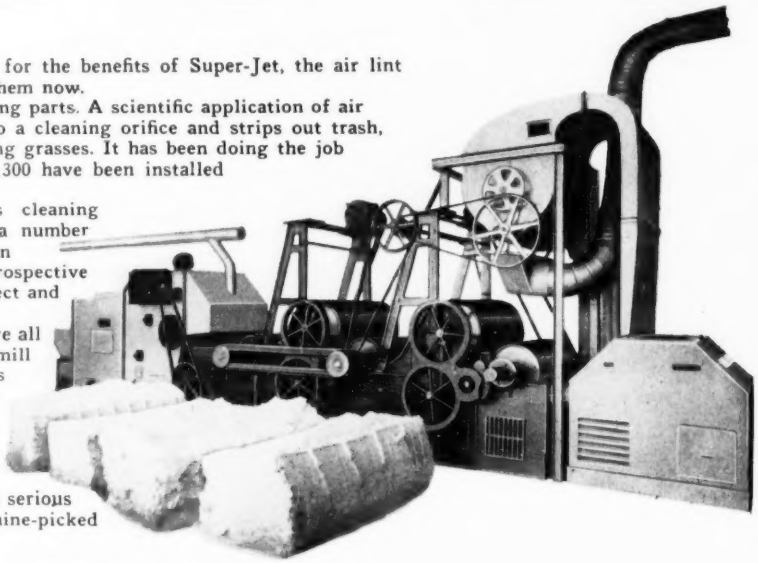
FULLY PROVEN AND READY....

NOW

You don't have to wait for the benefits of Super-Jet, the air lint cleaner. You can have them now.

Super-Jet has no moving parts. A scientific application of air streams floats the lint to a cleaning orifice and strips out trash, neps, motes . . . even long grasses. It has been doing the job for three seasons, and 1300 have been installed in cotton gins.

The Aldrich-Lummus cleaning system is at work in a number of mills which have given us permission to bring prospective purchasers to visit, inspect and ask questions about its operation. These mills are all enthusiastic, as is every mill where the equipment has been installed. We feel sure that when you see the results they are getting you will want this solution to a problem that has become serious since the advent of machine-picked cotton.



Made by LUMMUS COTTON GIN CO. Columbus, Ga. and ALDRICH MACHINE WORKS Greenwood, S. C.

Sold and Installed by AldricH MachinE Greenwood WorkS South Carolina

ALDRICH-LUMMUS CLEANING SYSTEM

ABC NBP

Textile Industries

COTTON

Volume 116, Number 3
March, 1952

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"Masquerading Fabrics"
Can Lead You a Fast Dance!

In a recent issue, QUICK magazine predicted for 1952 a sharp uptrend in fashion-acceptance for what it calls *"Masquerading Fabrics,"* such as "silk-like wools, wool-like silks, satin-like cottons, fur-like tweeds."

And behind the scenes, this helter-skelter fashion show demands looms that are literally "quick-change artists" . . . looms that are adaptable practically overnight to sudden changes in fibres, constructions and widths . . . modern, high-speed, CONVERTIBLE C&K CALL-BOX LOOMS.

Is *your* mill modernized and fortified to protect its profit-position, come what may? If not, *see C&K today.*

THIS "INVISIBLE TRADEMARK" STANDS BACK OF THE TRADEMARKS OF THE WORLD'S FINEST WOVEN FABRICS

Crompton & Knowles LOOM WORKS

WORCESTER 1, MASSACHUSETTS, U. S. A.

Philadelphia, Pa. • Charlotte, N. C. • Allentown, Pa. • Crompton & Knowles Jacquard & Supply Co., Pawtucket, R.I.

Only with B. F. Goodrich grommet belts can you make these savings!

Save 3 ways! Investigate today! Write or mail coupon

You save belt costs because belts last longer, save production costs because machines keep running with fewer interruptions, save maintenance costs because they need less attention.

Patented grommet belts by B. F. Goodrich represent the only basic change since invention of the V belt. Belts last 20 to 50 per cent longer, depending on service. (The more severe the service, the greater the increase over ordinary belts.) Grommet belts have more rubber; they're more flexible, give better grip, less slip.

What is a grommet?

A grommet is like a giant cable except that it's *endless*—a cord loop built up by winding heavy cord on itself. There is no overlapping cord *section* as in all ordinary belts. Most belt failures occur in these sections where cords overlap!

All cords put to work

Each of the two grommets and every part of a grommet carry their share of the load. In ordinary belts under high tension the center cords "dish" because tension is greater near the driving faces. Dished cords are doing less work, not pulling their share. Grommet belts have no center cords, there is no dishing—therefore much more strength in proportion to cord volume—and less stretch. Grommet belts stretch, on an average, only about one-third as much as ordinary belts.

Better grip, less slip

Grommet belts have more rubber in relation to belt size. Without any stiff overlap, they're more flexible, grip pulleys better. Size for size, grommet belts give ⅓ more gripping power, pull heavier loads with a higher safety factor. Because there is less slip, there is also less surface wear.

Send for proof

Send the coupon for a set of reports telling users' experiences and showing actual installations where grommet belts outlasted all others. Some typical cases:

". . . within a few days ordinary belts had stretched . . . After six months of 24-hour-a-day service BFG grommet belts haven't stretched at all . . ."

"Ordinary belts lasted only 5 or 6 weeks . . . B. F. Goodrich grommet belts are in their sixth month of service . . ."

"Previous belts suffered from shock loads, wore out fast . . . BFG grommet belts have been in service 2 years with no shut-downs . . ."

There are hundreds of cases like these.

They cost no more

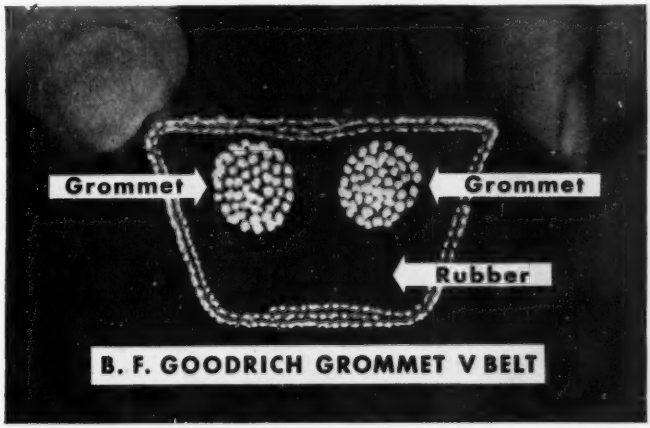
BFG grommet belts cost not one cent more than others. The savings they make for you are clear profit. They are made in C, D and E sections. They are patented by B. F. Goodrich. No other V belt is a grommet belt (U. S. Patent No. 2,233,294).

Write, send the coupon or see your B. F. Goodrich distributor. (He will show you his "X-ray" belt that shows the grommet construction clearly.)

Grommet V Belts BY

B.F.Goodrich

FIRST IN RUBBER



The B. F. Goodrich Company
Dept. TI-3
Akron, Ohio

☐ Send set of reports telling users' experiences and showing actual installations proving that B. F. Goodrich grommet belts outlast all others.

☐ Have distributor show me the "X-ray" belt that shows how B. F. Goodrich grommet belts are made.

Name_____

Firm Name_____

_____

Street Address_____

City_____

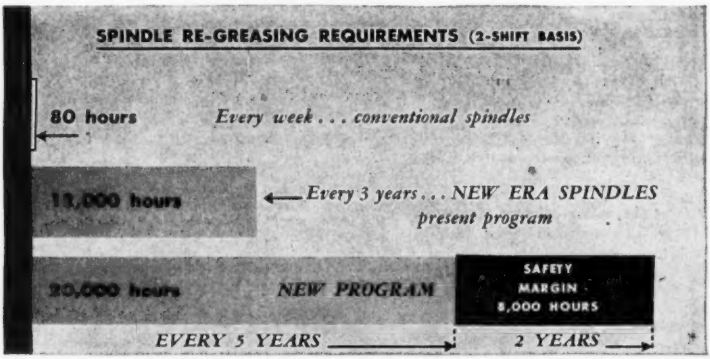
State_____

How many times have you oiled your conventional spindles since 1945?

New Departure engineers recently reported on a test made on **NEW ERA SPINDLES** that had been running for **seven years** in Chicopee Mills, Chicopee Falls, Mass., at 10,000 rpm, 16 hours per day, five days per week:

> Even after seven years of continuous service (on two shifts) without re-lubrication, a 100% noise test showed that 283 out of 284 bearings were in excellent condition.
>
> There is still enough grease remaining for further service without lubrication.
>
> It would appear that extending the re-greasing period to five years would be a safe procedure.

On the strength of this test and others still in progress, we expect soon to announce the extending of our former 3-year re-greasing recommendation to a 5-year re-greasing program . . . with a factor of safety of **two years beyond that!**


SPINDLE RE-GREASING REQUIREMENTS (2-SHIFT BASIS)
80 hours
Every week . . . conventional spindles
13,000 hours
Every 3 years . . . NEW ERA SPINDLES present program
20,000 hours
NEW PROGRAM
SAFETY MARGIN 8,000 HOURS
EVERY 5 YEARS
2 YEARS

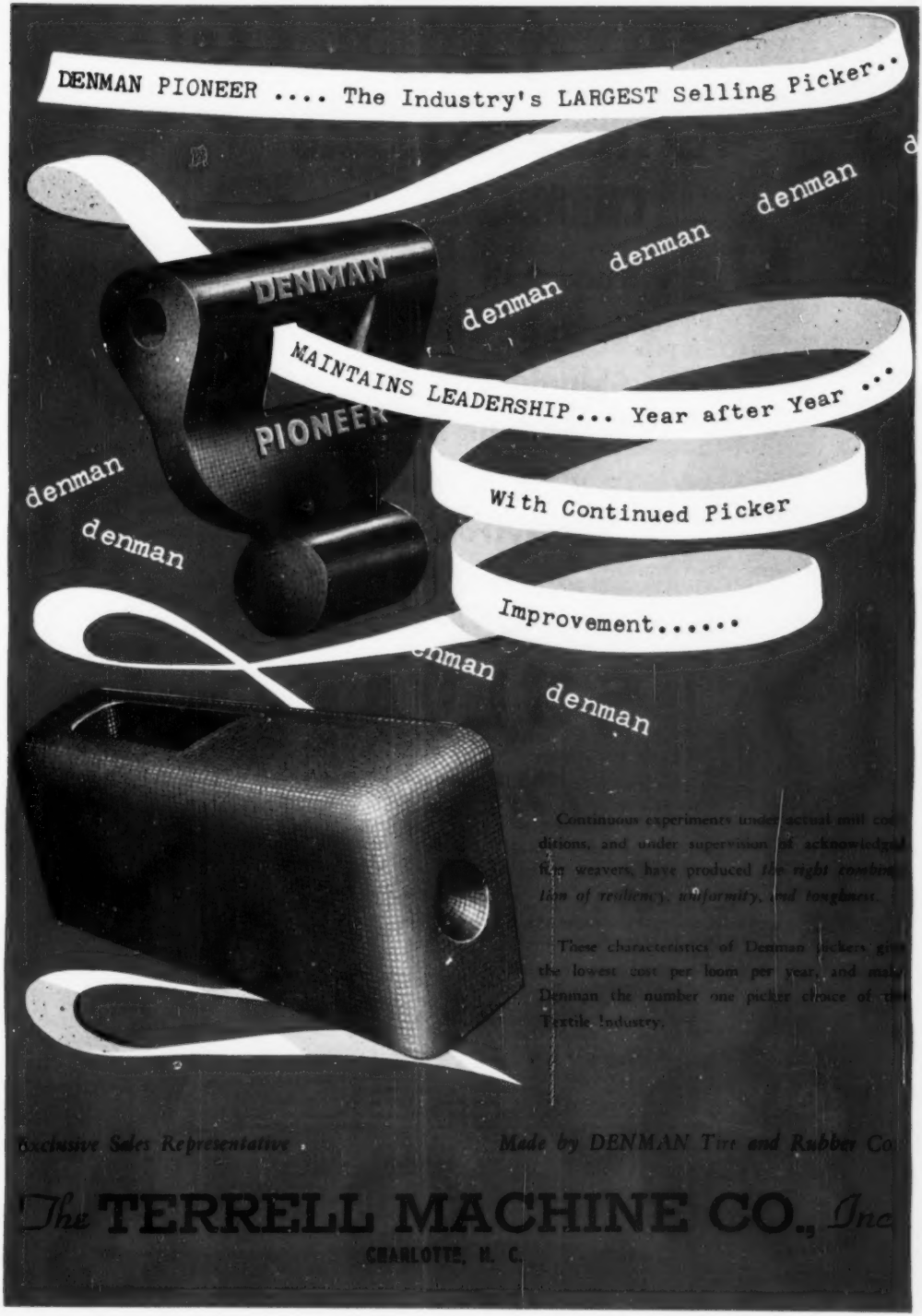
On request, a Saco-Lowell engineer will be glad to make a study of the operation of your present spindles, and indicate the specific advantages of installing New Era Spindles.

SACO-LOWELL

70 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD, MAINE and SANFORD, N. C.

SALES OFFICES: CHARLOTTE • GREENVILLE • ATLANTA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MAINTAINS LEADERSHIP... Year after Year ...
With Continued Picker
Improvement.....
Continuous experiments under actual mill conditions, and under supervision of acknowledged loom weavers, have produced the right combination of resiliency, uniformity, and toughness.
These characteristics of Denman pickers give the lowest cost per loom per year, and make Denman the number one picker choice of the Textile Industry.
Exclusive Sales Representative
Made by DENMAN Tire and Rubber Co.
The TERRELL MACHINE CO., Inc.
CHARLOTTE, N. C.

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TEXTILE PROCESSING CHEMICALS?
✓Soda Ash
✓Caustic Soda
✓Liquid Chlorine
✓Sodium Nitrite
✓Potassium Carbonate
✓Nytron
SEE
SOLVAY
TRADE MARK REG. U. S. PAT. OFF.
FIRST!
Call SOLVAY first for quality textile chemicals . . . for fast, dependable delivery service . . . and for assistance from SOLVAY's *exclusive textile Technical Service* on the proper and economical use of these products in textile processing.
In addition, SOLVAY has thirteen sales offices and a national organization of distributors to serve you; also strategically-located plants and over 200 stock points to assure prompt delivery. So when you need chemicals for textile processing, see SOLVAY *first*.
SOLVAY SALES DIVISION
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40 Rector Street, New York 6, N. Y.
BRANCH SALES OFFICES:
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Potassium Carbonate · Sodium Bicarbonate · Formaldehyde · Specialty Cleansers
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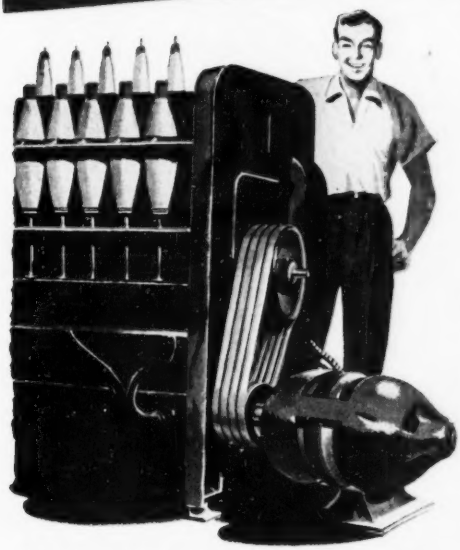
Ortho-dichlorobenzene · Monochlorobenzene · Ammonium Chloride · Methanol
SOLVAY
Alkalies Chemicals
Since 1881

You can better *every* V-Drive

with Goodyear's Line of Quality Belts

GOODYEAR INDUSTRIAL RUBBER PRODUCTS
-Specified
TEXTILE SPECIAL V-BELT CONSTRUCTION
to handle uneven loads, small pulleys, short centers, possible misalignment
A Multiple-ply bias-cut fabric envelope minimizes surface wear
B Four-ply cord fabric strength member for elasticity and greater strength
C Gum cushion in compression section



FOR HOSE, FLAT BELTS, V-BELTS, MOLDED GOODS, PACKING, TANK LINING, RUBBER-COVERED ROLLS *built to the world's highest standard of quality, phone your nearest Goodyear Industrial Rubber Products Distributor.*

FOR every V-drive in your mill, there's ONE V-belt that's right—combining materials and design to handle drive requirements longest, and at the lowest cost in the long run. And the G.T.M. — Goodyear Technical Man — has developed the most complete line of V-belt constructions, each tailor-made to fit the job.

Ask your nearest Goodyear distributor — or the G.T.M. — about:

TEXTILE SPECIAL V-BELTS developed to cope with unavoidable misalignment of sheaves and other special textile drive problems.

COMPASS CONSTRUCTION E-C CORD for high speed drives with short centers and small pulleys.

MULTIPLE-PLY E-C CORD BELTS for larger, normal speed drives including those with heavy shock loads and severe starting conditions.

COMPASS-V-STEEL BELTS for maximum load capacity, high heat resistance, low power consumption and minimum space. Speeds from 10 to 10,000 FPM. In sizes up to 120".

STEEL CABLE V-BELTS for longer drives, belt length 120" and over, and heavy HP loads.

HY-T BELTS built with synthetic fibers — have nylon's strength without its stretch on severest heavy-duty drives; oil-resistant construction at no extra cost.

OPEN-END V-BELTING for line shaft drives, no take-up drives and dismantle-to-install drives; built to operate with and really hold metal fasteners.

FRACTIONAL HP BELTS for miscellaneous light machinery drives employing single belts.

One of these constructions will be the right answer to *your* V-drive problem — will give longer, more economical V-belt service in your mill. So ask the G.T.M. for details, or write:

Goodyear, Akron 16, Ohio.

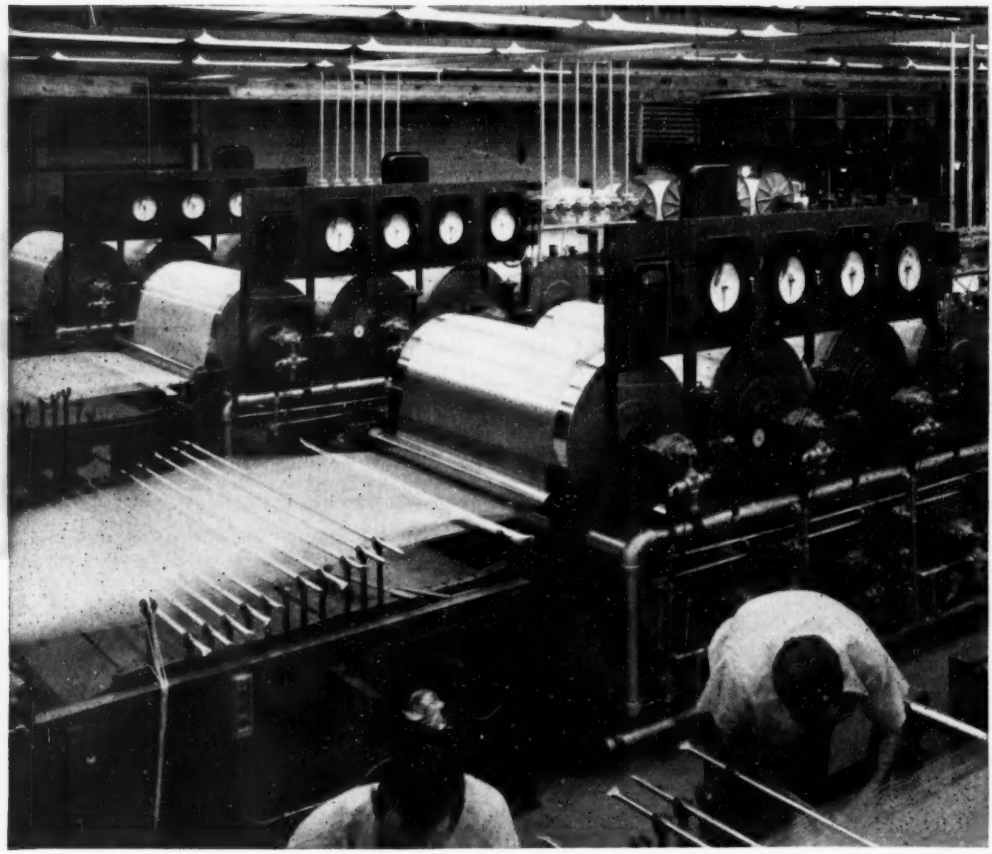
GOODYEAR

THE GREATEST NAME IN RUBBER

E-C Cord, Compass, Hy-T—T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

100% TAYLOR

Greenwood Mills



Taylor keeps 4 Cocker High Speed Slashers under accurate control, *regardless of operating temperature requirements.* Control of condensate gives closest possible relationship to cylinder surface temperature. Taylor's system of quick, automatic heat-up eliminates time lost waiting for traps to empty.

Taylor FULSCOPE* temperature controllers on the size cooking and storage kettles assure uniformly prepared size, and prevents excessive dilution due to over cooking. The result is a constantly uniform size delivered to slashers. Pumps shown pump size from cooking kettles (off picture to the right) to storage kettles on a platform above.

*Registered Trade Mark

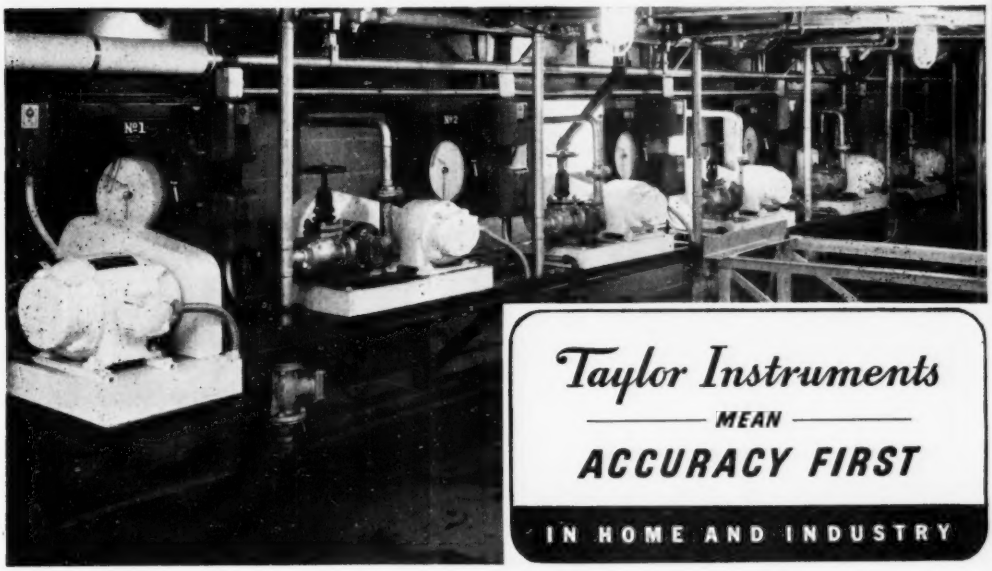
CONTROL *at new Harris, S.C., plant*

Greenwood Mills new filament rayon weaving plant at Harris, S. C., is a model of efficiency in every detail . . . architecture, layout, and equipment. To assure the maximum return on the new plant investment, automatic controls are used extensively in all phases of slashing . . . all of them Taylor made. Shown here are two of many operations where Taylor controls are keeping costs down, and assuring uniform product, with minimum operator attention.

For getting peak performance from new textile equipment, or increasing the efficiency of equipment you already have operating, you just can't beat Taylor control on every slashing phase: **size cooking, storage kettle temperature control, size box level and temperature control and slasher cylinder temperature control.** Ask your Taylor Field Engineer to show you how Taylor controls can save you money, both in operating expense *and* in more uniform product with far fewer rejects. Or write: Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

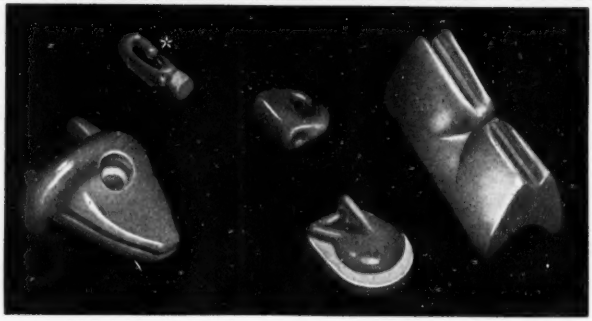
▪ ▪

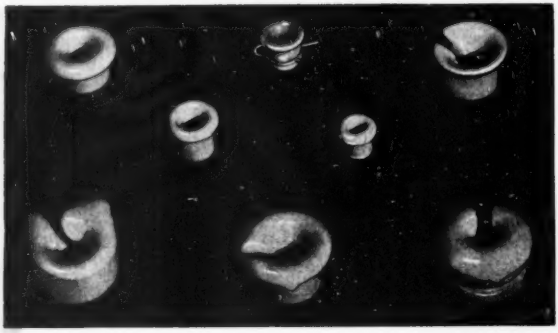
Instruments for indicating, recording and controlling temperature, pressure, flow, liquid level, speed, density, load and humidity.



MITCHELL-BISSELL THREAD GUIDES

For Every Textile Service ...For More Than 70 Years





Above—"BLUE SATIN FINISH" PORCELAIN GUIDES.

An exclusive development of Mitchell-Bissell—guides with this finish are more resistant to thread wear than any glazed porcelain guides ever offered the industry. "Blue Satin Finish" Guides, instead o being shiny and glass-like, have a surface of thousands of small rounded grains closely packed together. Reduced wear and longer guide life result because, by breaking the continuity of contact between yarn and guide, friction is reduced. *U. S. Pat. No. 2,152,136.

Left—WHITE GLAZED PORCELAIN GUIDES.

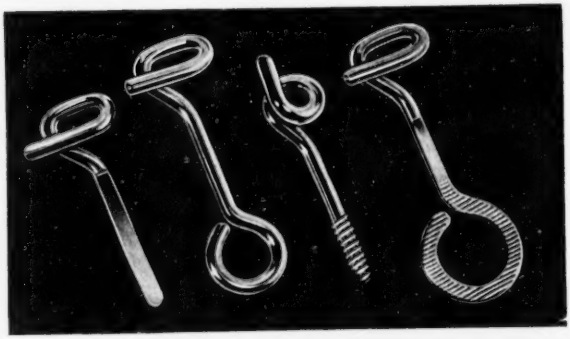
The Mitchell-Bissell Company originated the use of porcelain as a thread guide for the textile industry. The White Glazed Porcelain Guides shown here are representative of thousands of patterns that have been sold to all branches of the textile industry since this company was founded over seventy years ago. Improved in quality from time to time they are still "Standard."

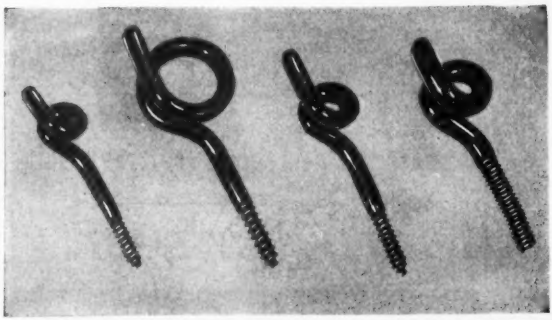
Right—CHROMIUM PLATED STEEL GUIDES.

The plating on Mitchell-Bissell Chromium Plated Steel Guides is harder and denser than on any other wire guides. Our methods of fabricating and polishing develop a surface smoothness, with a mirror finish far beyond usual commercial standards. Because of their superior resistance to thread wear these guides are used extensively on machinery for processing rayon and nylon yarns and also for many other severe applications.

Below—ENAMELED IRON GUIDES.

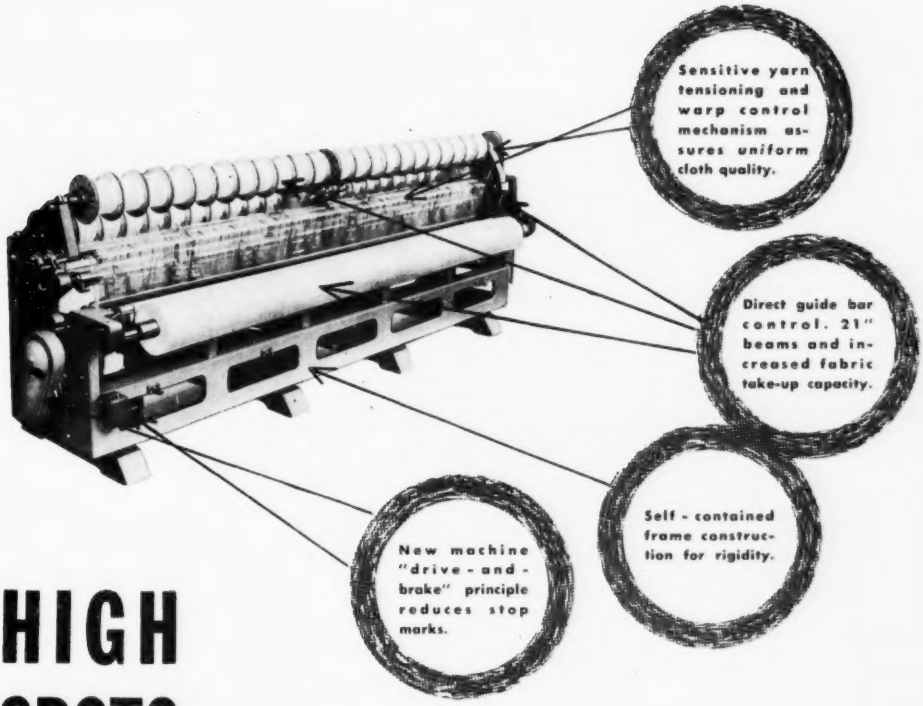
Where wire guides are desired, and service conditions do not require chromium-plated guides, our Enameled Iron Guides give exceptionally good service, with a low initial cost. Made with the care and craftsmanship that are standard practice on all Mitchell-Bissell products, these are recommended as centering and ballooning guides, and for cotton, woolen and other soft yarns.





TRENTON, N. J.

Southern Representative: R. E. L. Holt, Jr. & Associates
Greensboro, N. C.


Sensitive yarn tensioning and warp control mechanism assures uniform cloth quality.
Direct guide bar control. 21" beams and increased fabric take-up capacity.
Self - contained frame construction for rigidity.
New machine "drive - and - brake" principle reduces stop marks.

HIGH SPOTS

of the most **advanced design tricot machine** *made...*

MEYER

Mayer high speed tricot machine

Obtain up to 30% increase in production! Increased RPMs actually mean a smaller long term investment. Light weight aluminum leverage arms **speed up** knitting motions.

Hofmann's Mayer Tricot Loom is **precision engineered** for versatility, smooth operation and maximum efficiency.

Watch the finest quality tricot fabrics come out of your mill after your Mayer Tricot Loom goes into it!

2 or 3 guide bars. 168" width. 22 to 34 gauge. Cut-Presser-Pattern bar (optional).

FOR DEMONSTRATION CONTACT:

Alfred HOFMANN and Co.
635 59th Street West New York, N. J.

NYC phone: LOngacre 5-5771 NJ Plant phone: UNion 3-1300

BARBER COLMAN

Reduce Costs!

WITH THE

BARBER-COLMAN DRAWING-IN MACHINE

★ VERSATILE...

★ ACCURATE...

★ EFFICIENT...

DRAWS IN HEDDLES, DROP WIRES, AND REED IN ONE OPERATION

Many mills today are running such a variety of weaves, patterns, and stripes that the drawing-in operation becomes a major cost item. *Substantial savings* can be made by the use of a Barber-Colman Drawing-In Machine. This machine will handle any plain, fancy, or dobby weave. It draws-in all the heddles, drop wires, and reed in *one* operation — automatically selecting the proper heddle, drop wire, and reed dent for each thread. Any form of skip draw can be handled as easily as straight sequence, and the draw can be made from either a flat sheet or leased warp. The machine is available in a variety of capacities, drawing as many harness and banks of drop wires as required. Variations in size will take care of all standard loom widths. Modern mills of any size can take advantage of the versatility, accuracy, and efficiency of this outstanding machine to effect important savings in what has been a slow and costly hand operation. Consult your Barber-Colman representative for a discussion of possibilities in your own mill.

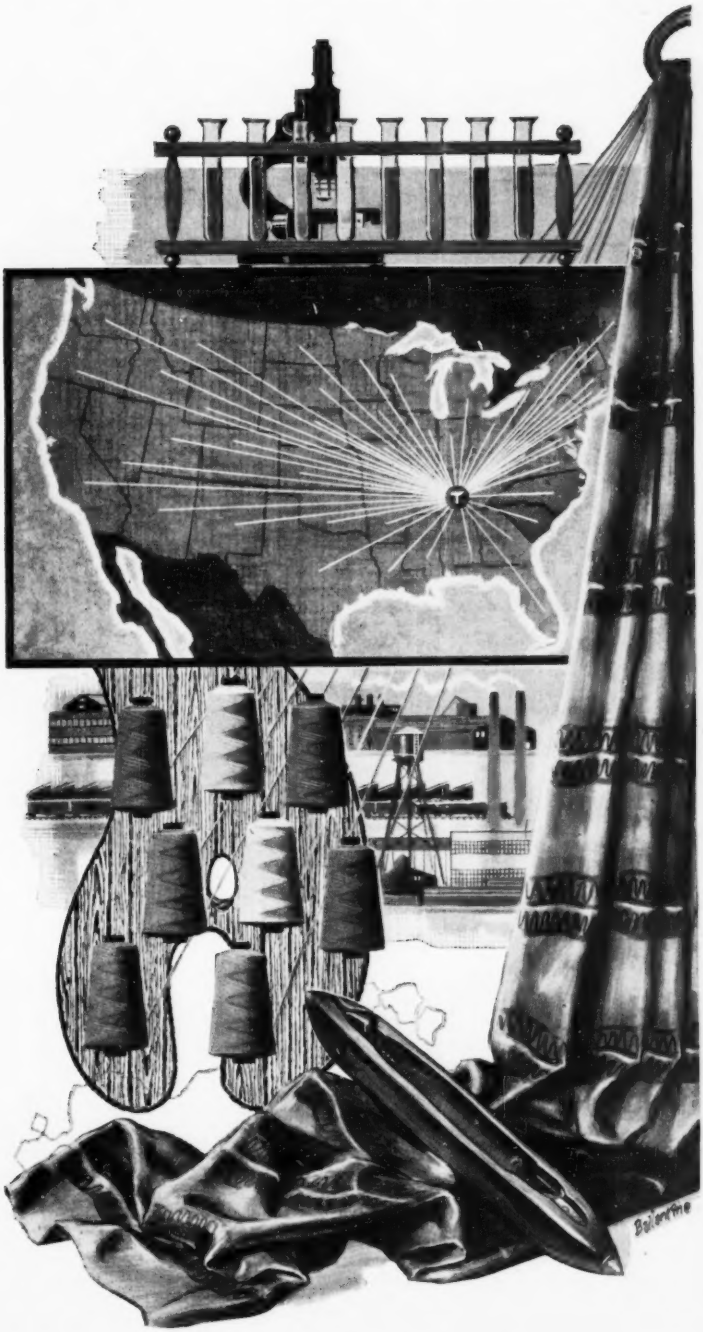
AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND MUNICH, GERMANY

THERE'S A TOUCH OF TENNESSEE IN CAROLINA TEXTILES



The people of the Carolinas were making fine textiles even before the Constitution was signed. The fame of Carolina Textiles has grown with the Country and so has Tennessee's part in this most important industry. Today, Tennessee supplies Acetic Acid for bleaching and treating fabrics; Benzaldehyde for dye manufacture; Pig Iron and Ferro-alloys for machinery—not only to the Carolinas but to the other states producing textiles. And for cotton, the principal raw material, Tennessee supplies Sulphate of Ammonia for mixed fertilizers and Benzene Hexachloride for dust and spray formulations to protect the crops from the Boll Weevil.

Key industries in every state depend upon Tennessee for elements essential to their production processes. That's why Tennessee is known from Coast to Coast as an industry serving all industry.

TENNESSEE
PRODUCTS & CHEMICAL
Corporation
NASHVILLE, TENNESSEE

Producers of: **FUELS • METALLURGICAL PRODUCTS • TENSULATE BUILDING PRODUCTS • AROMATIC CHEMICALS WOOD CHEMICALS • AGRICULTURAL CHEMICALS**

Why U. S. Rubber V-belts *cut overhead*

Savings in Maintenance: Inherent stretch is worked out mechanically in the factory; take-up is seldom, if ever, necessary. If required, the belt can be made oil-proof.

Savings in Power: Because U.S. Rainbow V-belts have practically no slippage, there is no loss of power between driver and driven machines.

Savings in Replacement: U.S. Rainbow V-belts last longer because they are not affected by moisture, cold, or heat.

To reduce any heat generated by constant flexing, and to get maximum adhesion between the component parts of the belt, the cords are treated with latex. Every U.S. Rainbow belt has the unique Equa-Tensil Cord Section—the U.S. Rubber development that insures sufficient pull and strength under diverse operations. Order from your jobber, or for more information, write to address below.

HITCH YOUR DRIVE TO A U. S. RAINBOW V-BELT

PRODUCT OF U.S.RUBBER SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY

MECHANICAL GOODS DIVISION • ROCKEFELLER CENTER, NEW YORK 20, N. Y.

For further information use Helpful Booklet Card—TEXTILE INDUSTRIES • MARCH, 1952

Color Sells Textiles
QUALITY KEEPS THEM SOLD
Color attracts women to fabrics just as it attracts bees to flowers. Use it liberally, but in good taste, and make sure you have the best colors for the purpose.
Use Franklin Process Colors and "keep your fabrics sold". These colors are backed by more than 40 years of experience and the largest yarn dyeing organization in the world.
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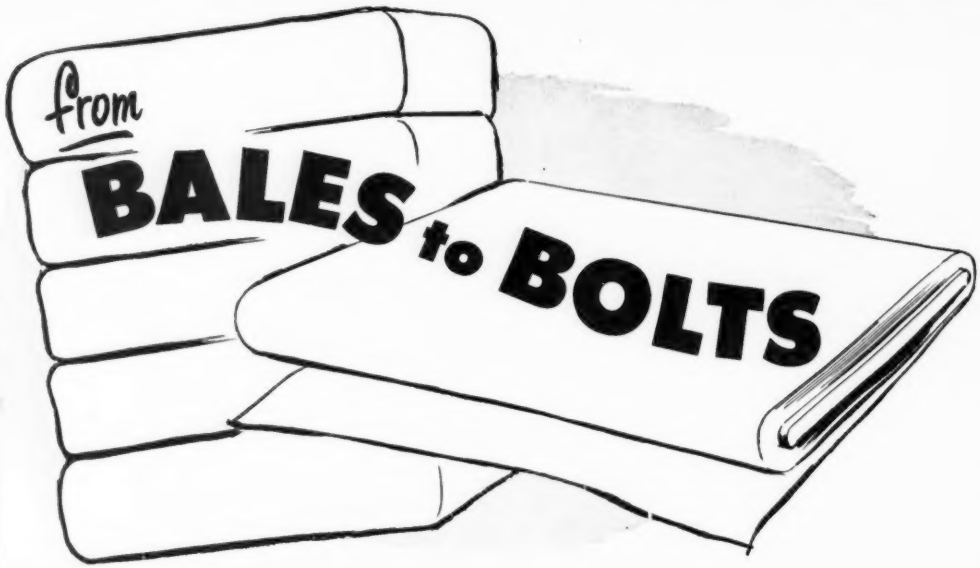

A Jacques Wolf Chemical For Every Processing Need!

For any stage of textile processing, Jacques Wolf & Co. has a complete line of chemicals and specialties. Whatever your particular problem, Jacques Wolf & Co. will welcome the opportunity of submitting samples custom-formulated to meet your needs.

Write Jacques Wolf & Company for the Catalog of Chemicals and Specialties. No obligation, of course.

Passaic, New Jersey
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* Reg. U. S. Pat. Off.

JACQUES WOLF & CO.
Chemicals PASSAIC, N. J.

DE-SIZING

Amprozyme—For liquefaction of starches and proteins in de-sizing textiles.

SCOURING

Oratol L-48*—A synthetic detergent with excellent penetrating and emulsifying properties.

DYEING

Wetsit Conc.*—A synthetic aromatic compound for wetting out.
Monopole Oil*—A highly concentrated, double sulphonated, castor oil.
Hydrosulfite of Soda Conc.—For Vat Colors.
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Meleine—Gas fading inhibitor for acetate fabrics, including resin treated.
Cream Softener—In different strengths and varied degrees of alkalinity.
Lupomin*—A cation active softener and finish.

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Acetate of Chrome—Used for mordanting.
Hydrosulfite AWC—Sodium Sulphoxylate Formaldehyde.
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Superclear*—A scientific textile printing gum.

GAYLORD BOXES

Safeguard *Your* Product

All the Way

In your plant everything possible is done to be sure your product is designed and manufactured to please the user. Equally vital is the selection of strong, durable shipping containers to safeguard the product which has been so carefully made.

Select Gaylord . . . the unseen quality of Gaylord Boxes pays off in peace of mind for everyone concerned.

Just Call the Sales Office Nearest You-

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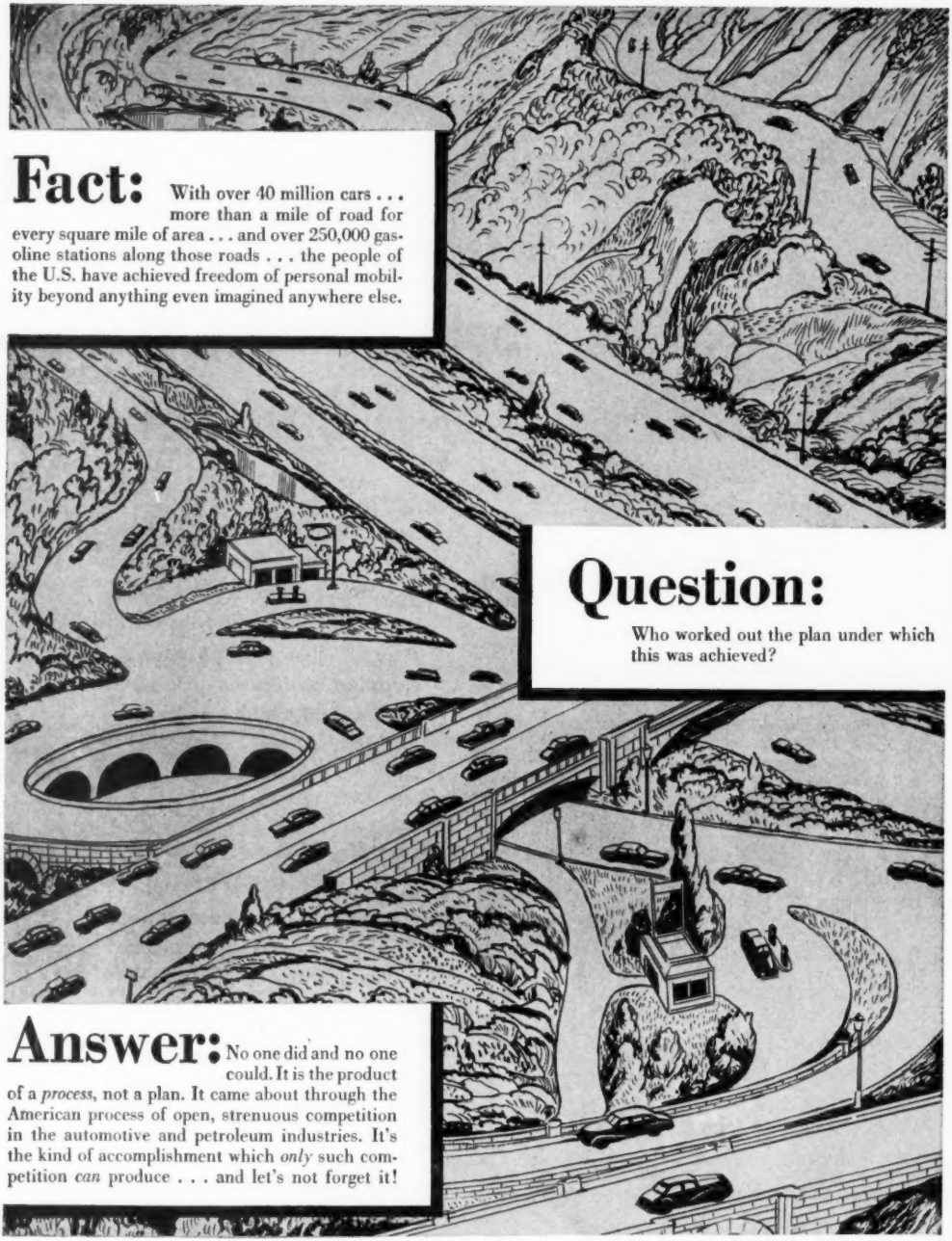

Fact: With over 40 million cars . . . more than a mile of road for every square mile of area . . . and over 250,000 gasoline stations along those roads . . . the people of the U.S. have achieved freedom of personal mobility beyond anything even imagined anywhere else.

Question:

Who worked out the plan under which this was achieved?

Answer: No one did and no one could. It is the product of a *process*, not a plan. It came about through the American process of open, strenuous competition in the automotive and petroleum industries. It's the kind of accomplishment which *only* such competition *can* produce . . . and let's not forget it!

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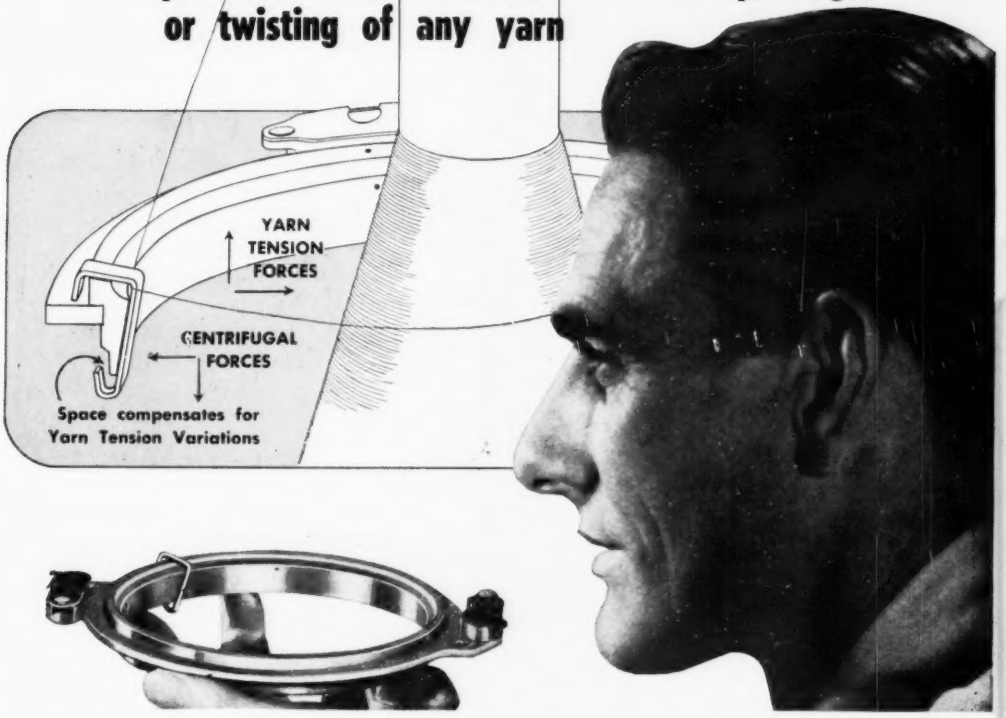
The competitive system delivers the most to the greatest number of people

The HERR CONICAL RING

provides ideal conditions for the spinning or twisting of any yarn



To prevent yarn breakage, and obtain smoother, cleaner yarn with heavier, more uniform doffs you will need Herr Conical Rings. Tension of the yarn is equalized by the centrifugal force of the traveler which is outward and downward.

The space between the bottom of the ring and the bottom of the traveler is the "factor of safety" that permits the traveler to compensate for varying tensions of the yarn.

The HERR CONICAL RING provides the right angles for the traveler. The conical surface directs the centrifugal force of the traveler downward. The traveler rides on the top and conical surface of the ring.

Wear of the traveler is held to a minimum by a specially formulated oil carried in capillaries to the top surface and the conical surface of the ring.

The traveler distributes and rides on the microscopic oil film. Maximum spindle speeds are achieved. There is no rewicking of the Herr Conical Ring.

Ask for help on your problem.

HERR

Gentlemen:
Please send literature on Herr Conical Rings and Herr Flyers.
Name .....
Position .....
Company address .....
Our problem is .....

MANUFACTURING CO., INC.

310 FRANKLIN STREET, BUFFALO 2, NEW YORK

FOR SPINNING AND TWISTING WORSTED, WOOLEN, RAYON, NYLON AND BLENDED YARNS OF ALL TYPES

PERKINS
HOLYOKE
Perkins Calender Rolls—the natural result of the longest and broadest experience in the industry—give quality that is definitely reflected in your product. Perkins service includes refills of any make of calender rolls.
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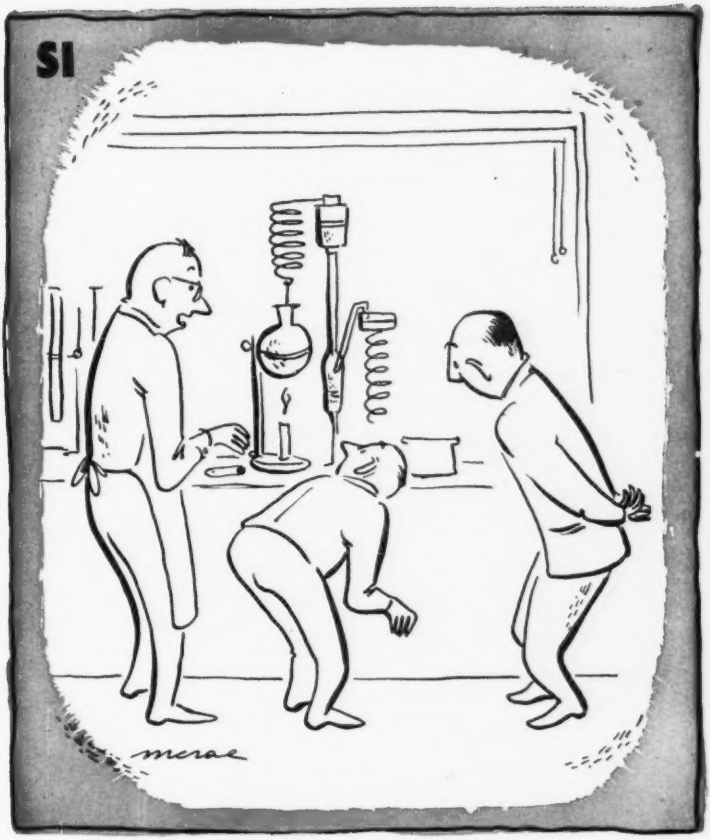
HOLYOKE, MASS., U.S.A.
LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD



"I DON'T KNOW WHAT HAPPENED—IT JUST KEEPS COMING OUT SCOTCH AND SODA."

SEYCO Products

WARP SIZING
- Softeners
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- Penetrants
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WET PROCESSING CHEMICALS AND AUXILIARIES
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- Softeners

NIAGARA TWIST-SETTER
- Yarn Conditioning Penetrants

Sometimes a new product is the result of accidental discoveries. But the research staff in the SEYCO laboratories know that these accidents only happen when work is going on—and they must be able to recognize the value of an accidental discovery.

Accident or intent—we work continually to keep SEYCO Products the leaders in the field.

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PENETRANTS • SIZING • SHUTTLE DRESSING • SOFTENERS • ALKALIS
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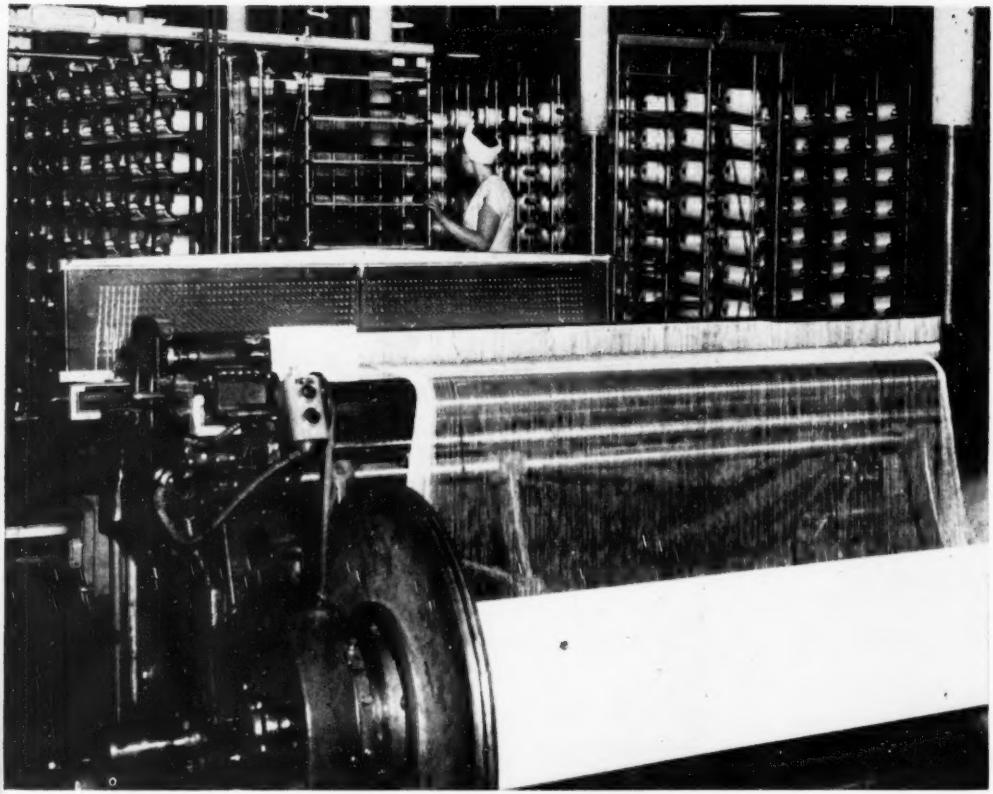

Promises or Performance?

IT'S EASY to make a promise—but when it comes to the right lubricants in your machines —it's the *performance* that counts.

For 66 years Standard Oil lubricants have been first in popularity in the Southern textile industry because of performance. Standard Oil lubricants are refined by the most modern methods from the highest grade crudes, in unvaryingly high quality. Rigidly controlled tests during manufacture are taken to assure lubricants that have high resistance to oxidation and an ability to maintain body under extreme temperatures.

No matter how complex your lubrication problems may be, a Standard Oil lubrication engineer will be happy to survey your plant and blueprint your requirements. Backed by the largest combined facilities in the world for research and testing petroleum products, he offers you the most authoritative service available.

STANDARD OIL
LUBRICANTS

Standard Oil Company
(KENTUCKY)

*KERANOL nk®

gives woolens, cottons and rayons a very desireable, soft full hand...

***Durable to Washing and Dry Cleaning**

Your woolen, cotton and rayon fabrics finished with KERANOL N K will have a truly mellow, glove-like hand, durable to washing and dry cleaning. KERANOL N K is unaffected by variable pH values, so may be used with greatest efficiency in neutral, alkaline or acid baths.

Mail the coupon for further information.

Additional — and highly valuable — use of KERANOL N K: as a plasticizer and softener in conjunction with all types of resin finishes.

EXCELLENT RESISTANCE TO YELLOWING!

Arkansas Co., Inc.
P. O. Box 210
Newark, N. J.

Gentlemen:
Please send, without obligation:

- ☐ full details on KERANOL N K
- ☐ sample and application procedure
- ☐ please have representative call

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Arkansas Co. INC.

MANUFACTURERS OF INDUSTRIAL CHEMICALS FOR OVER 45 YEARS
NEWARK, NEW JERSEY

THIS IS NO. 91 OF A SERIES ON

GETTING THE MOST FROM TWISTING

Information about twisting designed to show improvements in twisting equipment and new ideas in the twisting operation

HEAVY-DUTY ROLLER BEARING SPINDLE
Model 10 Ring Twister

In keeping with the trend toward large-package twisting, more and more mills are having their new Model 10 Ring Twisters equipped with heavy-duty roller bearing spindles or are replacing plain-bearing spindles with this heavy-duty type.

This spindle was developed to meet higher speed requirements and more rigorous operating conditions. It gives maximum spindle efficiency when producing ring twister packages containing from one to two pounds of yarn.

Spindle Blade

The spindle blade is constructed from a special spindle steel which has the necessary hardness and toughness to meet the physical requirements demanded of a spindle.

The blade is hardened throughout, and a special heat-treating process is applied to the bearing surfaces. There are two such surfaces — upper and lower. The upper surface contacts the rollers of the roller bearing, and the lower surface seats in the lower spindle step bearing.

The blade is straightened mechanically to assure minimum eccentricity, and special care is taken throughout manufacture to protect the blade from damage through handling, thus assuring a product of the highest possible standards.

Finally, the spindle blade is given a smooth finish to remove any tool marks that might, through repeated donning and doffing, cause wear and enlarge the bobbin bore.

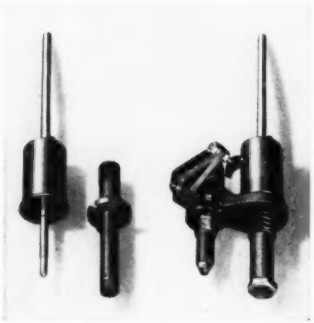


Fig. 1. Heavy-duty roller bearing spindle for Model 10 Ring Twister. Left to right: spindle blade and whorl, spindle step, spindle and swing assembly.

Spindle Whorl

The manufacturing processes through which the whorl passes assure maximum concentricity with the spindle blade. The bore and outside diameter of this cast-iron part are concentric to within .001 in., and the blade and whorl are assembled with a tapered force fit which results in locking the two parts together.

Spindle Step

The spindle step is cast-iron, machined to meet minimum runout specifications.

The upper bearing arrangement is the roller-type, housed in a hardened bolster which serves as an outer race for the roller bearing. The lower bearing is made from a bronze bearing material which minimizes wear on the bearing surface of the spindle.

The spindle step is mounted in the spindle swing by means of a compression spring and sleeve retained by a spindle nut and separated from it by a quality felt washer to isolate vibration.

A hardened pin pressed into the spindle swing engages with a slot in the spindle step and prevents the step from rotating within the swing.

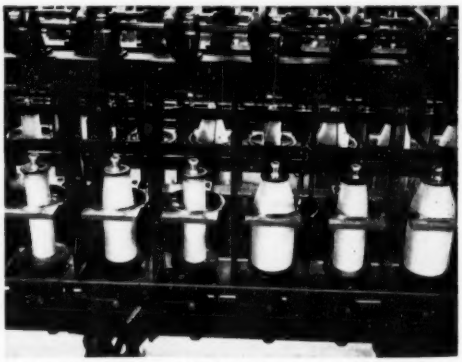


Fig.2. 2-lb bobbins of single-end acetate being produced on a Model 10 Ring Twister equipped with heavy-duty roller bearing spindles.

23.1.4

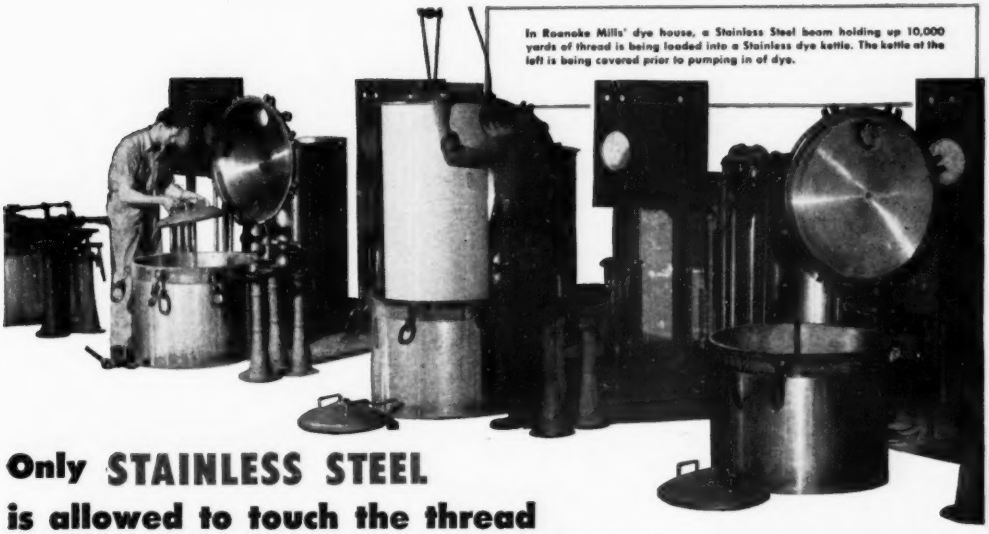
March, 1952

WINDING AND TWISTING MACHINERY FOR NATURAL AND SYNTHETIC YARNS

UNIVERSAL WINDING COMPANY

Atwood Division

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA CHICAGO LOS ANGELES MONTREAL and HAMILTON



In Roanoke Mills' dye house, a Stainless Steel beam holding up 10,000 yards of thread is being loaded into a Stainless dye kettle. The kettle at the left is being covered prior to pumping in of dye.

Only STAINLESS STEEL is allowed to touch the thread in dyeing and slashing operations at Roanoke Mills

More than 100 colors and shades go into the upholstery fabrics which Roanoke Mills produces at its Number 2 mill at Roanoke Rapids, N. C. To safeguard its thread through the dye house and slasher rooms, the firm allows it to touch nothing but Stainless Steel.

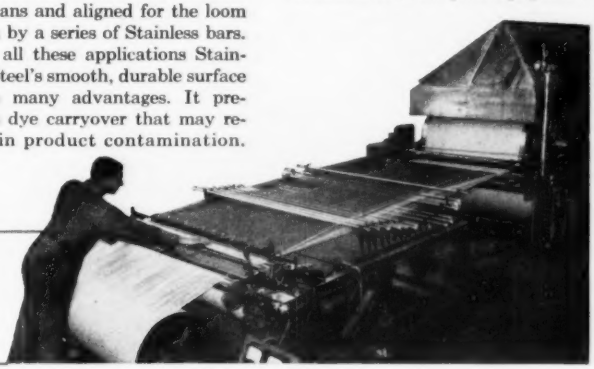
Most of the dyeing takes place on 10,000-yard capacity Stainless beams in six Stainless Steel beam dye kettles. These kettles, used for bleaching as well, have been in service five years, and, according to the Maintenance Superintendent Robert T. Howell, "show no signs of use, let alone deterioration."

Dye is mixed in Stainless vats, stored in 350-gallon Stainless tanks and delivered to the kettles by a Stainless pump through Stainless pipe and fittings. Part of the cotton is dyed before warping, and excess dye and moisture is removed by Stainless baskets in three Tolhurst centrifugals.

In the slasher room, starch is cooked in Stainless kettles, agitated by a Stainless paddle, and delivered to the slasher by a Stainless pump. The yarn is sized through a Stainless Steel size box with Stainless Steel rolls and is dried on Stainless dry cans and aligned for the loom beam by a series of Stainless bars.

In all these applications Stainless Steel's smooth, durable surface offers many advantages. It prevents dye carryover that may result in product contamination. Cleaning is quicker and more thorough. And Stainless equipment gives years of service without replacement and with minimum maintenance. In the words of Mr. Howell, "It's the most satisfactory material we have used."

Take advantage of the benefits of Stainless Steel in your mill. And for the finest performance, insist on perfected, service-tested U·S·S Stainless Steel for your equipment.



In the slasher room, thread comes off the Stainless Steel dry cans and is wound onto a spool for transfer to the loom. Bars of Stainless tubing that help align the threads can be seen in the center of the picture. The Stainless Steel dry cans on this slasher were manufactured by the Cocker Machine and Foundry Company, Gastonia, N. C.

U·S·S STAINLESS STEEL

AMERICAN STEEL & WIRE .... COLUMBIA-GENEVA STEEL .... NATIONAL TUBE .... TENNESSEE COAL & IRON
UNITED STATES STEEL SUPPLY, WAREHOUSE DISTRIBUTORS .... *Divisions of* **UNITED STATES STEEL COMPANY, PITTSBURGH**
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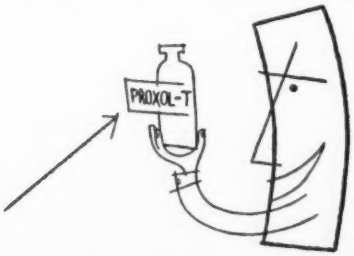
UNITED STATES STEEL

TAPES THRIVE ON NEW Proxol·T



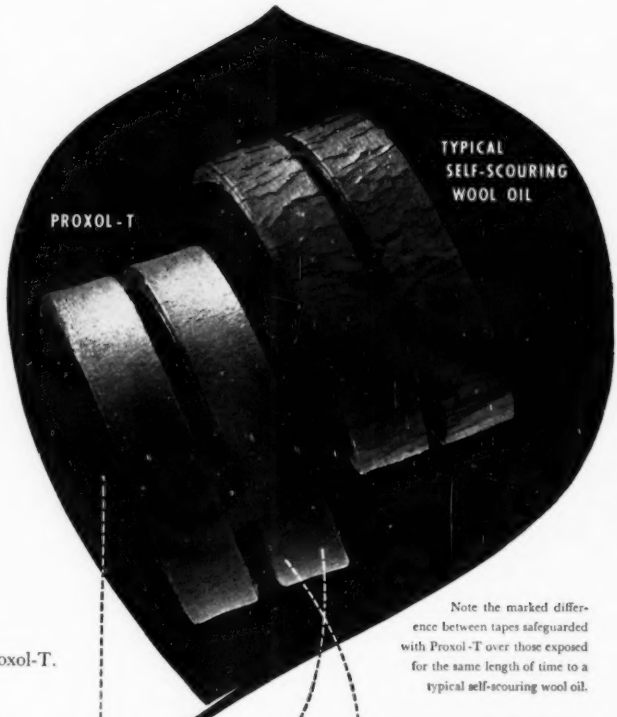
Long life for your tapes is mighty important, of course. And tapes literally *thrive* on new Proxol-T, as these pictures prove.

But that advantage *alone* would scarcely justify your changing to Proxol-T. When you couple long tape life with advantages like *these:*

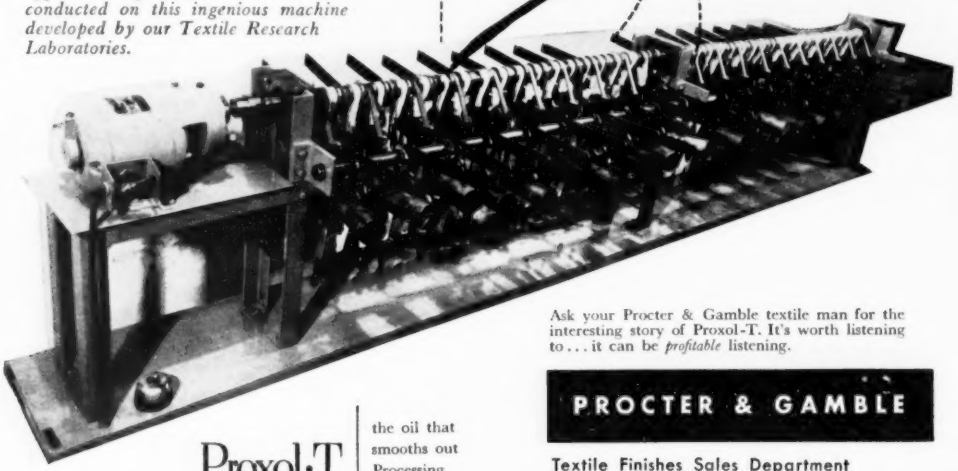
- **greater moisture retention**
- **better static control**
- **better carding**
- **higher spinning efficiency**
- **stronger, more uniform yarns**
- **higher yields**
- **better aging properties**

. . . you can't *afford* to overlook new Proxol-T.

Comparative tests on tape life — approximating mill results — were conducted on this ingenious machine developed by our Textile Research Laboratories.



Note the marked difference between tapes safeguarded with Proxol-T over those exposed for the same length of time to a typical self-scouring wool oil.



Ask your Procter & Gamble textile man for the interesting story of Proxol-T. It's worth listening to . . . it can be *profitable* listening.

Proxol·T

the oil that smooths out Processing Wrinkles.

PROCTER & GAMBLE

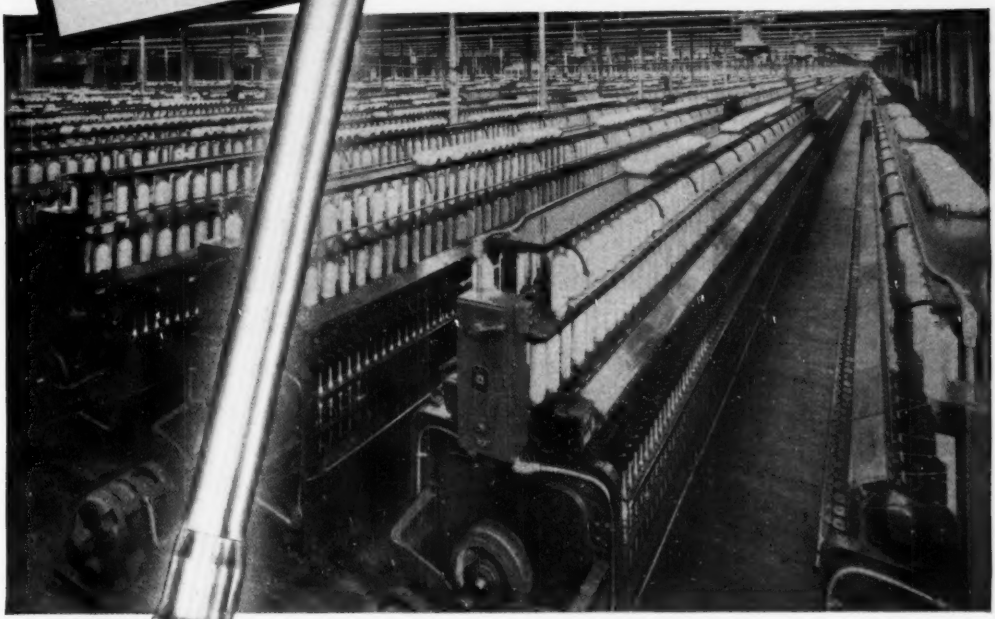
Textile Finishes Sales Department
Cincinnati, Ohio

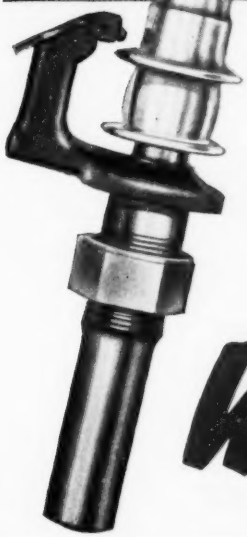
MADE BY THE MAKERS OF OLATE, ORVUS AND PROFINE.

Mills report:

"THE *finest* SPINDLE EVER MADE"

. . . for tube type spinning bobbins





Whitin has manufactured and sold more than a *million* aluminum sleeve type spindles since their introduction to the trade in 1949. Enthusiastic reports of long-wearing, trouble-free operation continue to come in from mill after mill.

These spindles will withstand severe abuse and are so perfectly balanced that smooth-running, vibrationless operation is obtained. This "built-in" balance prevents oil throwing with its resultant dirty yarn and assures more economical operation by prolonging the life of spindles, bolsters and tapes.

A special aluminum alloy having the wearing characteristics of steel is used to prevent spindle top wear.

These spindles are available for use with our Oilite plain bearing bolsters or Whitin SKF anti-friction roller bearing bolsters. In either case, the oiling cycle is materially lengthened with a consequent reduction in maintenance costs.

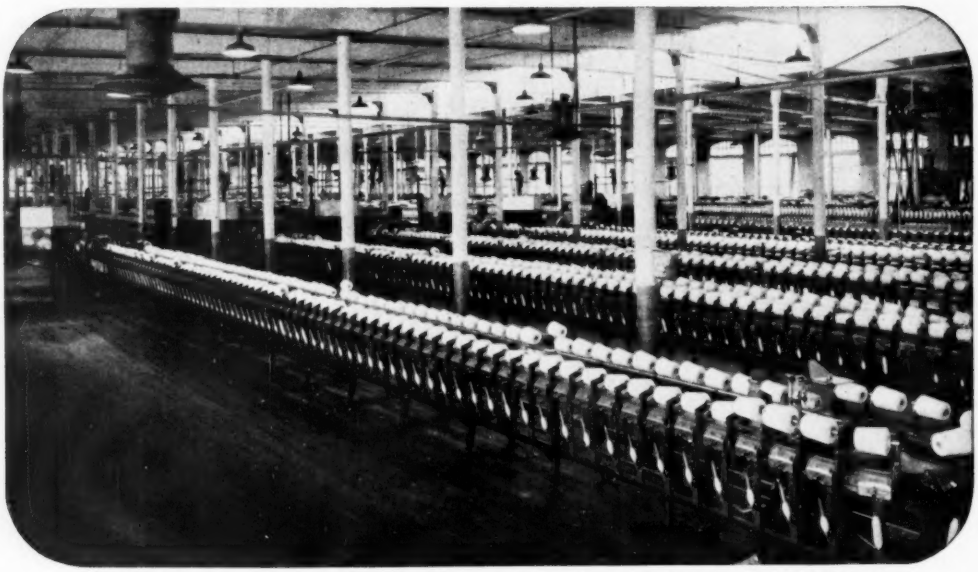
Why not try a frame of these spindles in your own mill? We are sure that you will confirm the verdict of so many other satisfied mill men that these are the finest spindles ever made.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

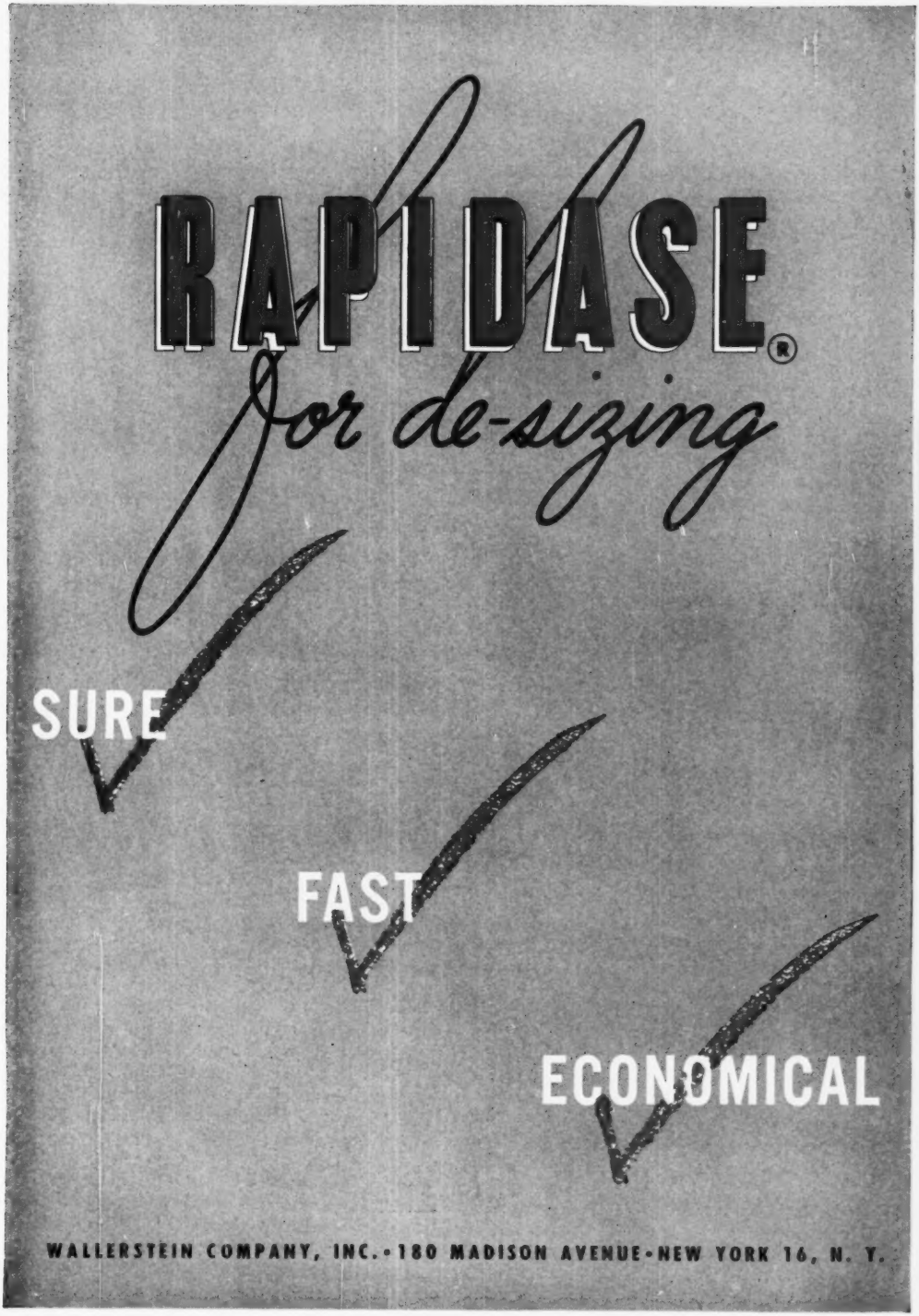
CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

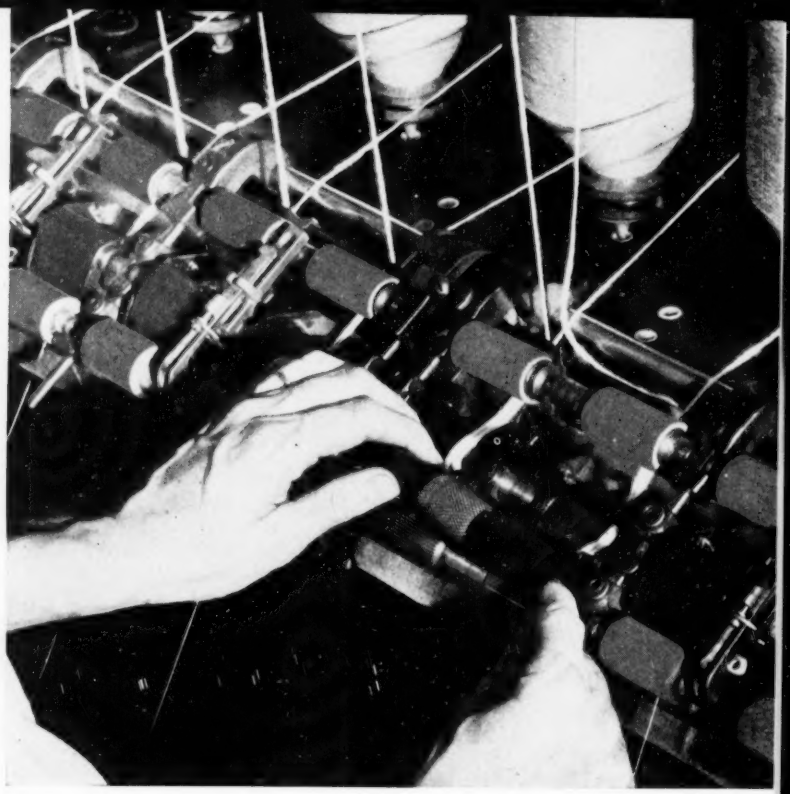
Winding a better weaving loom bobbin that improves fabric quality, Abbott Automatic Quillers offer the lowest winding cost in the automatic winding field. One operator can maintain a steady production load of from 1000 to 2000 wound bobbins per hour.



With the Abbott Automatic Cone or Cheese Winder, one operator, from a seated position, sets full bobbins in a rotating magazine and doffs full packages, maintaining a steady production of from 800 to 1000 bobbins wound onto packages per hour. It's the low-cost installation for efficient twisting, warping, or sale yarn package winding.

ABBOTT MACHINE CO., INC.
WILTON, NEW HAMPSHIRE
SOUTHERN OFFICE, GREENVILLE, S. C.


RAPIDASE®
for de-sizing
SURE
FAST
ECONOMICAL
WALLERSTEIN COMPANY, INC. • 180 MADISON AVENUE • NEW YORK 16, N. Y.

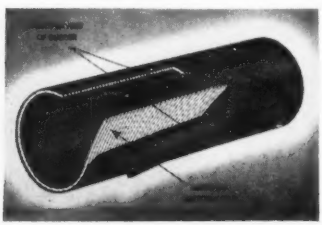


LONGER LIFE: Accotex Aprons reduce replacement costs. On single and most double apron frames they will give six to eight years—and more—of continuous clean-running service on two-shift operation.

APRON MAINTENANCE dramatically reduced by these patented aprons

If you would like to get up to twice the life you were accustomed to with old-style aprons, you should try Armstrong's Accotex® Aprons.

In one leading Georgia mill, for example, an installation of Armstrong's NO-700 Aprons ran two shifts continuously for eight years. At the end of that time, these aprons were still flexible, still free from cracks, still strong and as resistant to stretching as when new.



What's the secret of this fine performance? It's in the construction. Accotex Aprons are made in three layers: a method developed and patented by Armstrong. Each layer is scientifically designed to do its own special job.

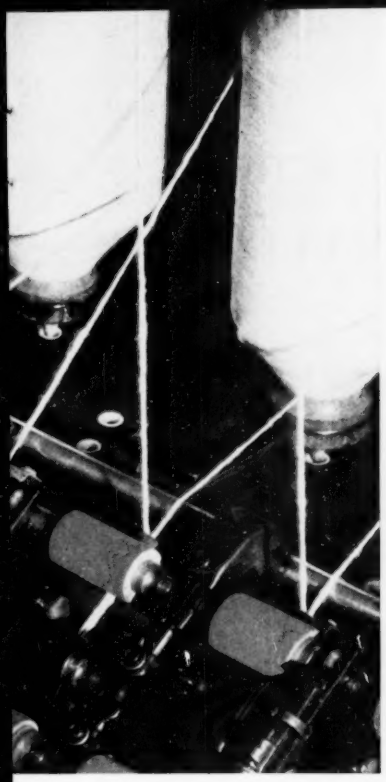
The inner layer is a seamless tube of synthetic rubber made to resist the abrasion of rubbing over the nose bar year after year. The seamless outer layer is also synthetic rubber, treated to stay smooth and run clean. In the middle are strong cords that prevent stretching or curled edges.

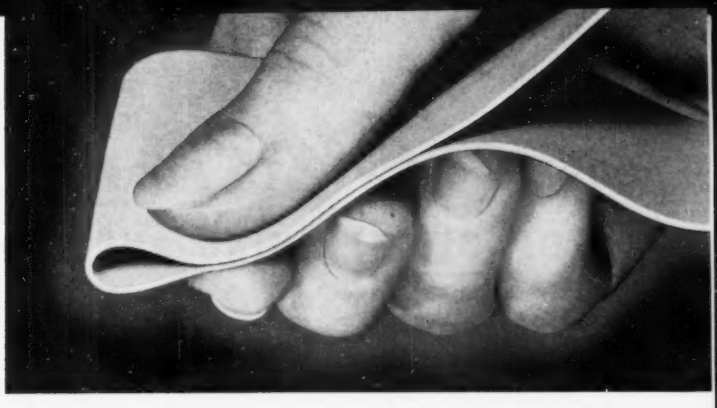
When vulcanized together, these three layers combine to make a super-flexible, tough apron.

Mill men who use these aprons generally agree that Accotex Aprons have excellent yarn handling qualities—that they are exceptionally clean running.

You can find the reason for this in the way the rubber for these aprons is compounded, in the special steps taken during manufacturing to insure maximum flexibility, and in the patented treatment that gives each apron a satiny smooth surface yet retains the right amount of friction.

If you'd like to have this kind of apron service, see your Armstrong representative. He can supply you with a durable Accotex Apron suited to your frames. Call him today or write Armstrong Cork Company, Textile Products Department, 3603 Arch Street, Lancaster, Pennsylvania. Available for sale in export markets.

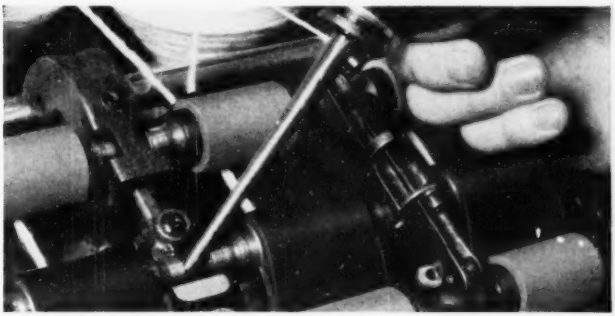




SUPER FLEXIBLE: NO-750 Accotex Apron has been especially developed for single apron frames. It, too, is seamless and extremely flexible. You'll find that it hugs the nose bar tightly, giving you smooth slip roll action.

SATIN FINISH: Rub your fingers across the surface of an Armstrong's Accotex Apron. You'll discover it's smooth as satin. Each Accotex Apron is ground to the exact thickness you specify and given a patented treatment that makes the surface smooth, clean running, and scuff resistant.

NO SEAMS: Look at any Armstrong's Apron. You'll see it has no seams to crack or break, no seams to cause irregular slip roll action or uneven drafting.



OIL RESISTANT: Accotex Aprons don't absorb oil or soften from exposure to oils, dyes, and commonly used textile solvents. They won't sweat under any normal mill condition. This, plus the patented Armstrong treatment, gives you aprons that run clean year after year.

ARMSTRONG'S ACCOTEX APRONS

one of Armstrong's complete line of textile mill supplies

THE *Key* TO MODERN PRODUCTION...
FROM OLD SPINNING AND TWISTING FRAMES

SCORES of mills have found that they can salvage millions of dollars in capital investment —and at the same time make their yarn output competitive in *quality*, *quantity*, and *cost*—by modernizing their band-driven or old-style tape-driven spinning and twisting frames with "Meadows Modernizers."

A typical Meadows "Conversion" consists in the installation of individual drive pulleys, ball bearing tape tension pulleys, aluminum alloy separators, silent chain drive, and high-strength polished and ground steel shafting, mounted on heavy-duty, self aligning ball-bearings.

The result is lower power consumption, even tension at all times, a more uniform speed and twist, fewer ends down, and increased yarn production . . . at far less than the capital investment cost of new frames. Can be easily and quickly installed. Write or call us for estimate and particulars.

MEADOWS CONVERSIONS

MEADOWS MANUFACTURING COMPANY • ATLANTA, GEORGIA

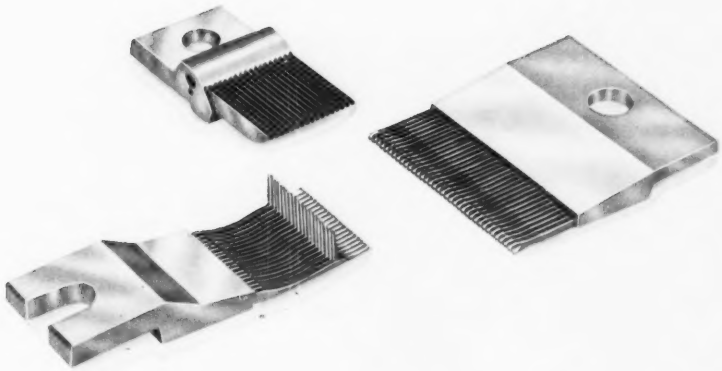
Representatives:

JAMES P. COLEMAN
P.O. Box 1351
Greenville, South Carolina

MATTHEWS EQUIPMENT COMPANY
93-A Broadway
Providence, Rhode Island

SAM HOGG
Atlanta, Georgia

COLEMAN-ROWE, INC.
P.O. Box 782
Salisbury, North Carolina



Torrington Announces a New Complete Leading Service for Raschel Machines

Torrington Needles Precision-Mounted In Cast Lead Bases Now Available; Also Complete Re-Needling Service.

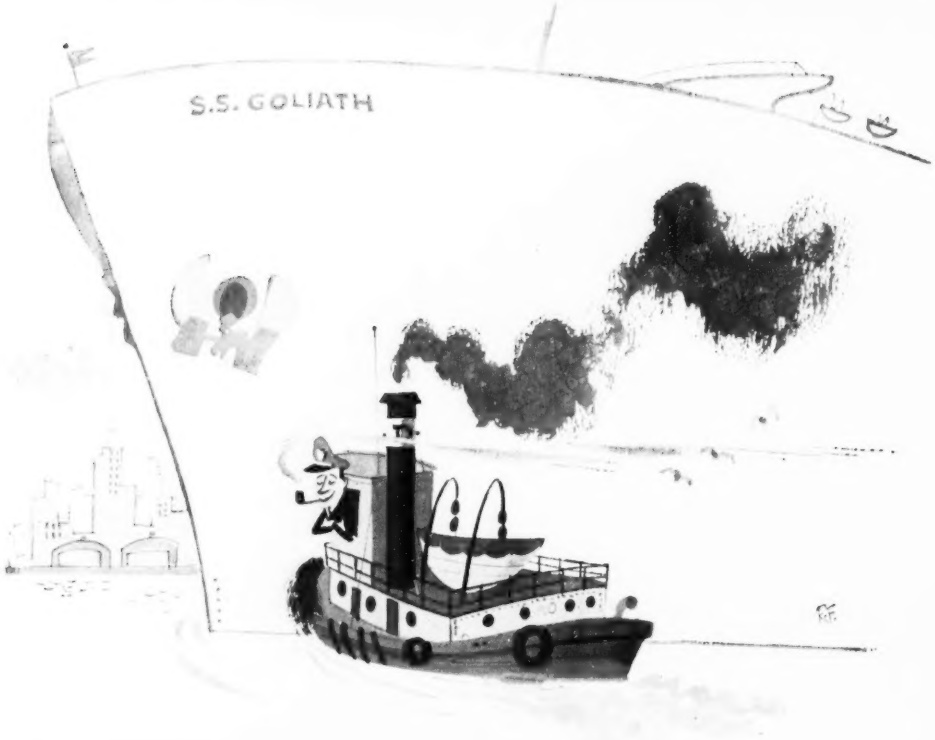
As a further step in providing our customers with the most complete and efficient service possible, we now offer Torrington latch needles, precision-mounted in lead castings for raschel machines. These leads are precisely dimensioned and smoothly finished to assure exact spacing and alignment in the needle bar. Leaded thread guides and other leaded parts are also available.

Result: users of raschel machines can now rely on Torrington to safeguard *every* phase of their needling operations. Your nearby Torrington representative will be glad to give you full details of the benefits of this new service. Call him today.

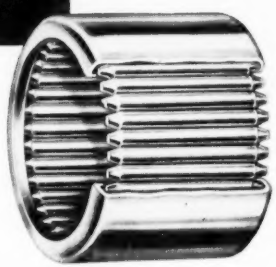
The Torrington Company

Torrington, Conn., U.S.A. • Established 1866

Branches: New York • Philadelphia • Chicago • Boston • Greensboro, N. C. • St. Louis • Toronto, Canada • ***Pacific Coast Representative:*** E. G. Paules, 1762 W. Vernon Ave., L. A. 37, Calif.



david tames goliath...



Torrington Needle Bearings are small—but mighty! A full complement of precision-ground rollers distributes loads evenly over an extra-large area . . . providing greater radial capacity in relation to O. D. than any other type of anti-friction bearing.

This high capacity, combined with compact size, has helped improve the efficiency of many products. So have other Needle Bearing advantages—light weight, easy lubrication and long service life. Ask our engineers to give you the whole story on Torrington Needle Bearings in terms of *your* product!

THE TORRINGTON COMPANY

Torrington, Conn. South Bend 21, Ind.

District Offices and Distributors in Principal Cities of United States and Canada

TORRINGTON *NEEDLE* BEARINGS

Needle • Spherical Roller • Tapered Roller • Straight Roller • Ball • Needle Rollers

CALL the Houghton Man | **WRITE** the Houghton Man | **WIRE** the Houghton Man

3 Easy Ways to get answers to your Wet Processing Problems

Textile men realize there is no such thing as an "Ideal" surface active agent—one that does every processing job in a mill. So they're solving their processing problems in a way that makes good sense . . .

More and more mill operators are asking the Houghton Man for help in choosing the *right* surface active agent for various scouring, dispersing and wet processing operations. You will produce better fabrics, trim processing costs, and speed production substantially when you choose the one best suited for the job.

Houghton has a force of technically trained men to help you do that. They're backed by extensive laboratory and research facilities. Manufacturing plants located in principal industrial areas serve to speed this on-the-job service.

Next time the Houghton Man calls on your mill ask him to put our knowledge of surface active agents to work for you. One or more of these cost-saving products can help you make your fabrics better, or faster, or at lower cost . . .

CERFAK	SURFAX
for effective Detergency	***for Wetting or Re-Wetting***
When detergency is the chief factor in your processing, stick to the "Cerfak" group. Each of these seven "Cerfak" products was developed after long study, for particular processing jobs. This wide range permits you to pick the one that fits the job best.	When exceptionally good wetting and re-wetting agents are needed, select one of the "Surfax" products. They possess little or no detergency value. In applications where both detergent *and* wetting action are desirable, there's a "Cerfak" available for excellent results.

HANDY HOUGHTON FOLDER helps you choose the agent with detergent and/or wetting properties for specific applications. Ask the Houghton Man for a copy or write to E. F. Houghton & Co., Philadelphia 33, Pa.

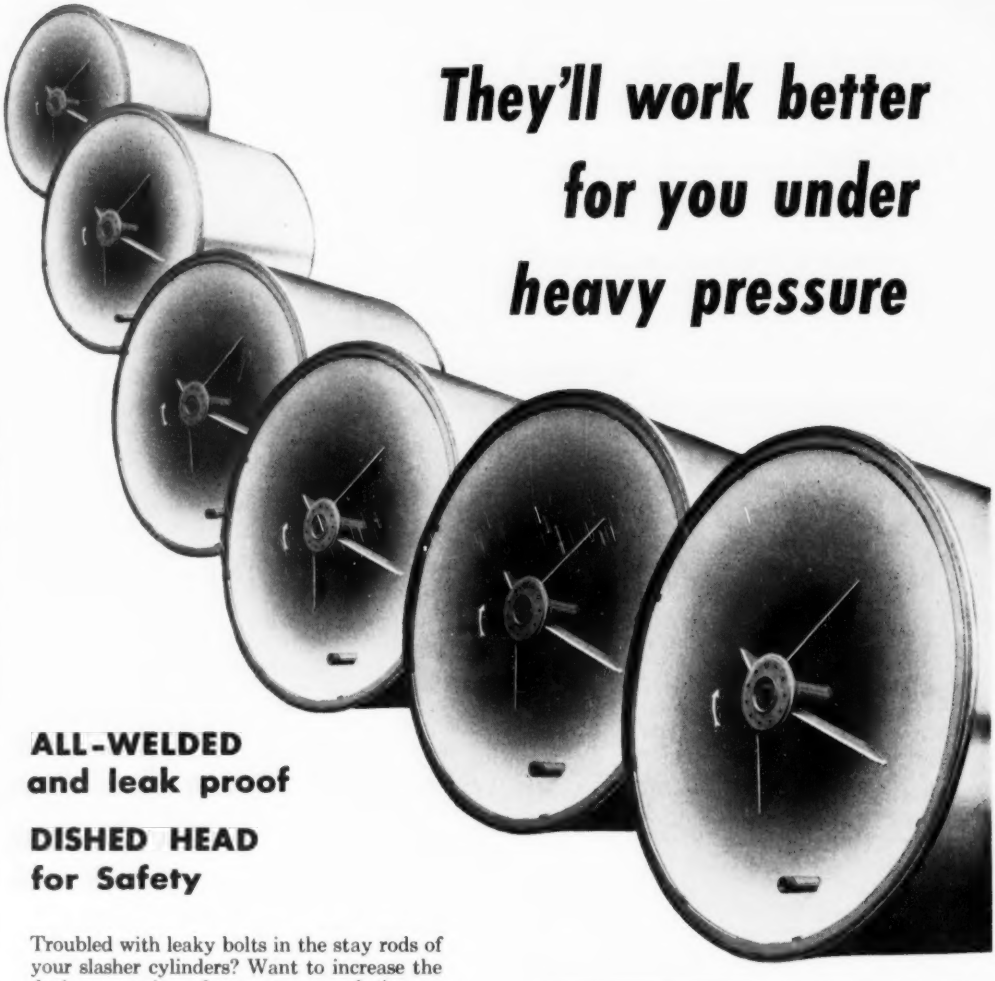
. . . products of

E. F. HOUGHTON & CO.

PHILADELPHIA · CHICAGO · DETROIT · SAN FRANCISCO

Ready to give you on-the-job service . . .

They'll work better for you under heavy pressure



ALL-WELDED and leak proof DISHED HEAD for Safety

Troubled with leaky bolts in the stay rods of your slasher cylinders? Want to increase the drying capacity of your two—and three—cylinder slashers?

Then replace your old style cylinders with new, dished head, welded steel cylinders. The all-welded construction of WPF&M new-type cylinders does away with bolts in the stay rings and stay rods through the heads. It eliminates over 200 possible leaks in the old-style seven foot cylinder and more than 150 possible leaks in the five foot cylinder.

Drying capacity is increased because these new cylinders allow steam pressure to be stepped up to 22 PSI instead of the old 12 PSI.

And you'll benefit from these advantages in safety with these new all-welded cylinders. Available in five foot and seven foot diameter, stainless steel or copper cover.

Let us give you an estimate to replace your present equipment.

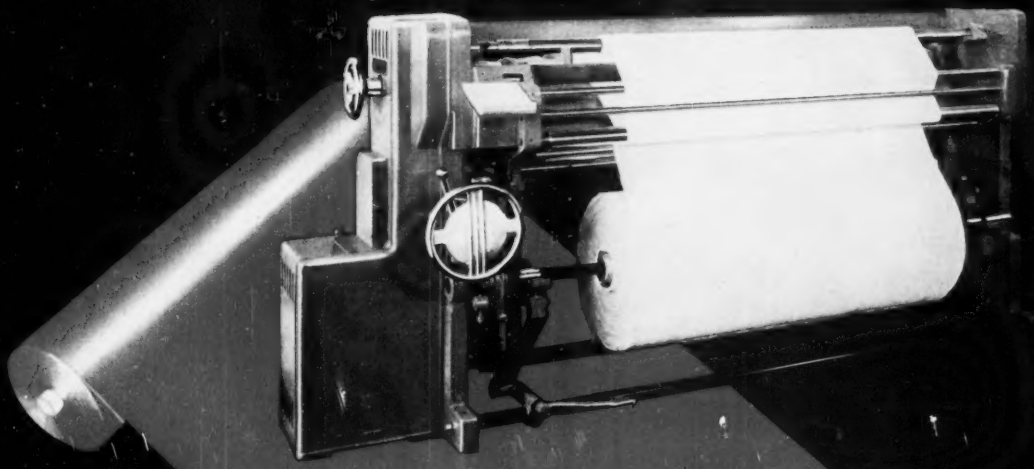
WPF&M WARP PREPARATION MACHINERY

STANDARD 2 AND 3 CYLINDER SLASHERS
CYL-AIR SLASHERS
MULTI-CAN SLASHERS
WPF&M HI-SPEED 4 CYLINDER SLASHERS
CALLAWAY SAMPLE SLASHER
AIR-DRI SLASHERS

SLASHER MODERNIZATION EQUIPMENT

HI-SPEED HEAD ENDS WITH STRETCH CONTROL
STANDARD WPF&M HEAD ENDS
MULTI-MOTOR DRIVES AND CONTROLS
TEMPERATURE, SPEED AND TENSION CONTROL DEVICES
HI-SPEED SIZE BOXES
MODEL 50 SIZE BOXES
STANDARD SIZE BOXES
SIZE KETTLES AND EQUIPMENT

WEST POINT FOUNDRY & MACHINE CO.
WEST POINT, GEORGIA



The VAN VLAANDEREN Constant Cloth Speed TUBER

A Smooth Performer

Most modern fabrics benefit by tensionless processing in the wet stage. Control of tension when *tubing* also has definite advantages, giving a better package, accurately measured.

CONSTANT CLOTH SPEED up to 200 yards per minute is possible, under controlled tension from near tensionless to medium tension. Package density is uniform as predetermined.

ACCURATE MEASURING is given at all times, since tension between let-off and take-up can be reduced to the minimum, as the measuring drum is a driven unit of the machine. Measuring roll is non-corrosive with a long-wearing finish and mounted on a moveable carriage for easy selvage alignment.

THE V. V. CONSTANT CLOTH SPEED TUBER is easily and quickly loaded. Start, let-off, take-up and measuring drum are all synchronously controlled by one foot pedal. Stop brake is controlled by hand lever.

Ask to see this machine in operation.

The machine illustrated is also available with conventional, variable cloth speed for those who do not require the tensionless feature. Improved from time to time to meet increasingly exacting requirements, this machine has consistently given superior packaging performance.

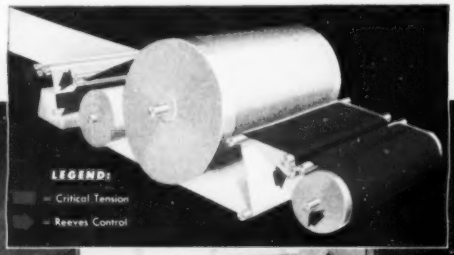
VAN VLAANDEREN MACHINE COMPANY

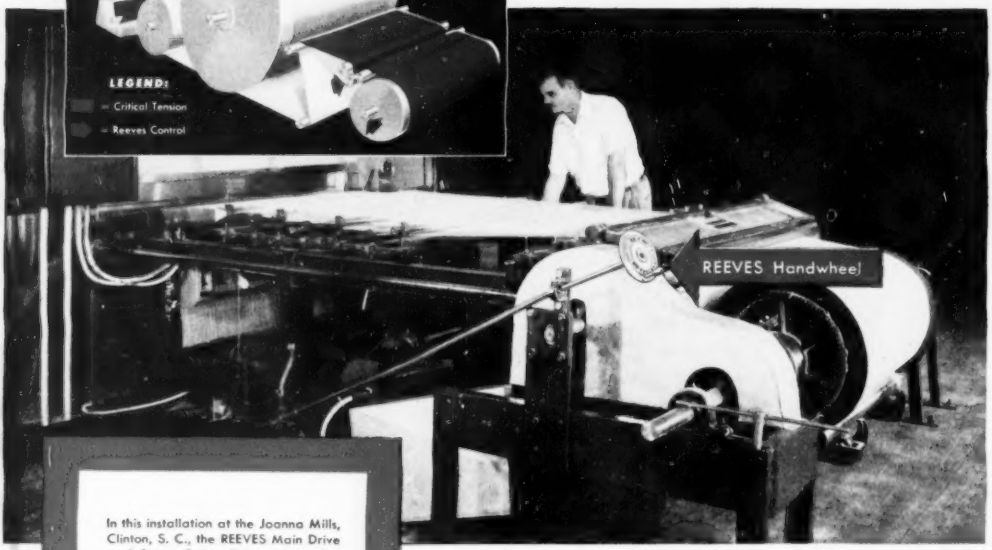
370 Straight Street • Paterson 3, New Jersey

Cable address: Vlaanderen, Patersonnj, U.S.A.

World's largest manufacturer of machinery for processing modern fabrics

Control tension at all critical points with REEVES "Servo-Control" SLASHER DRIVE





In this installation at the Joanna Mills, Clinton, S. C., the REEVES Main Drive and Beam Drive fit neatly under slasher head end. Desired tension may be adjusted while slasher is in operation by turning tension adjusting handwheel (arrow), while the sensitive "Servo-Control" system automatically maintains a constant tension on the yarn throughout the complete build-up of the beam.

Easy to install, operate and maintain...improves product quality...increases profits

1 Finger-tip control from creep to run speeds by push-button.

2 Smooth acceleration and deceleration through 15:1 speed range.

3 Quick, accurate, positive control of running speeds—without fluctuation—either manually or automatically tied in with moisture control.

4 Automatic, uniform tension regulation as beam builds.

5 Low initial cost; easily maintained by your mill mechanics; no complicated electrical hook-ups.

6 "Nests" under slasher head-end frame.

7 Stretch Control—easily adjusted, accurately measured.

Get *all* facts—all profitable for you. Send for *free* Bulletin No. T79-S.

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

Recognized leader in the specialized field of variable speed control

accurate • variable **REEVES** *Speed Control*

Rayon Reports

CONSISTENT GAINS MADE BY RAYON IN MEN'S APPAREL IN 1951

Figures just released by the U. S. Census Bureau reveal that rayon made substantial gains in men's apparel during 1951. During 1950, rayon led only in the "separate trouser" classification. It now also leads the "summer weight suit" and "woven sport shirt" classifications. The growing influence of rayon in year-round suits is shown by the 261% increase in this field.

These gains were made in a period when total production of all categories was reduced. They offer graphic proof that emphasis on rayon by the men's wear industry is a fast growing trend.

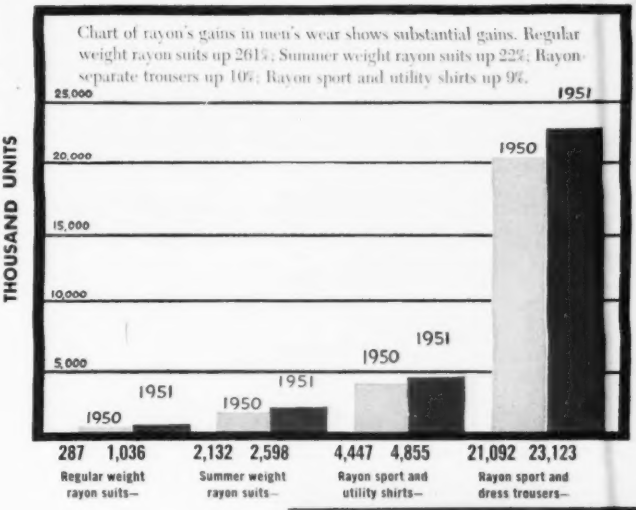
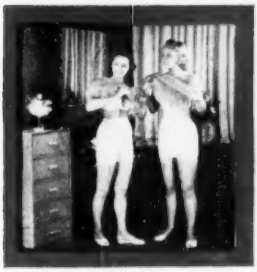


Chart of rayon's gains in men's wear shows substantial gains. Regular weight rayon suits up 261%; Summer weight rayon suits up 22%; Rayon separate trousers up 10%; Rayon sport and utility shirts up 9%.
THOUSAND UNITS
25,000
20,000
15,000
10,000
5,000
1950
1951
287 1,036
Regular weight rayon suits—
2,132 2,598
Summer weight rayon suits—
4,447 4,855
Rayon sport and utility shirts—
21,092 23,123
Rayon sport and dress trousers—



Two-way-stretch Girdle made from Avisco Filatex Yarns by The Wispese Company, 302 Fifth Avenue, N. Y.

Avisco Filatex yarns contribute to progress of foundation garment industry

Filatex, Avisco's elastic yarns have made important progress in the girdle industry.

These yarns produce fabric constructions that combine a soft hand and light weight with lasting elasticity, durability and excellent laundering qualities. Filatex yarns also are used in the manufacture of swimming suits, surgical stockings and hosiery. Further development of these yarns is being undertaken by the Avisco Textile Research Department. Inquiries about this work are invited.

MAKE USE OF *Avisco*® 4-PLY SERVICE

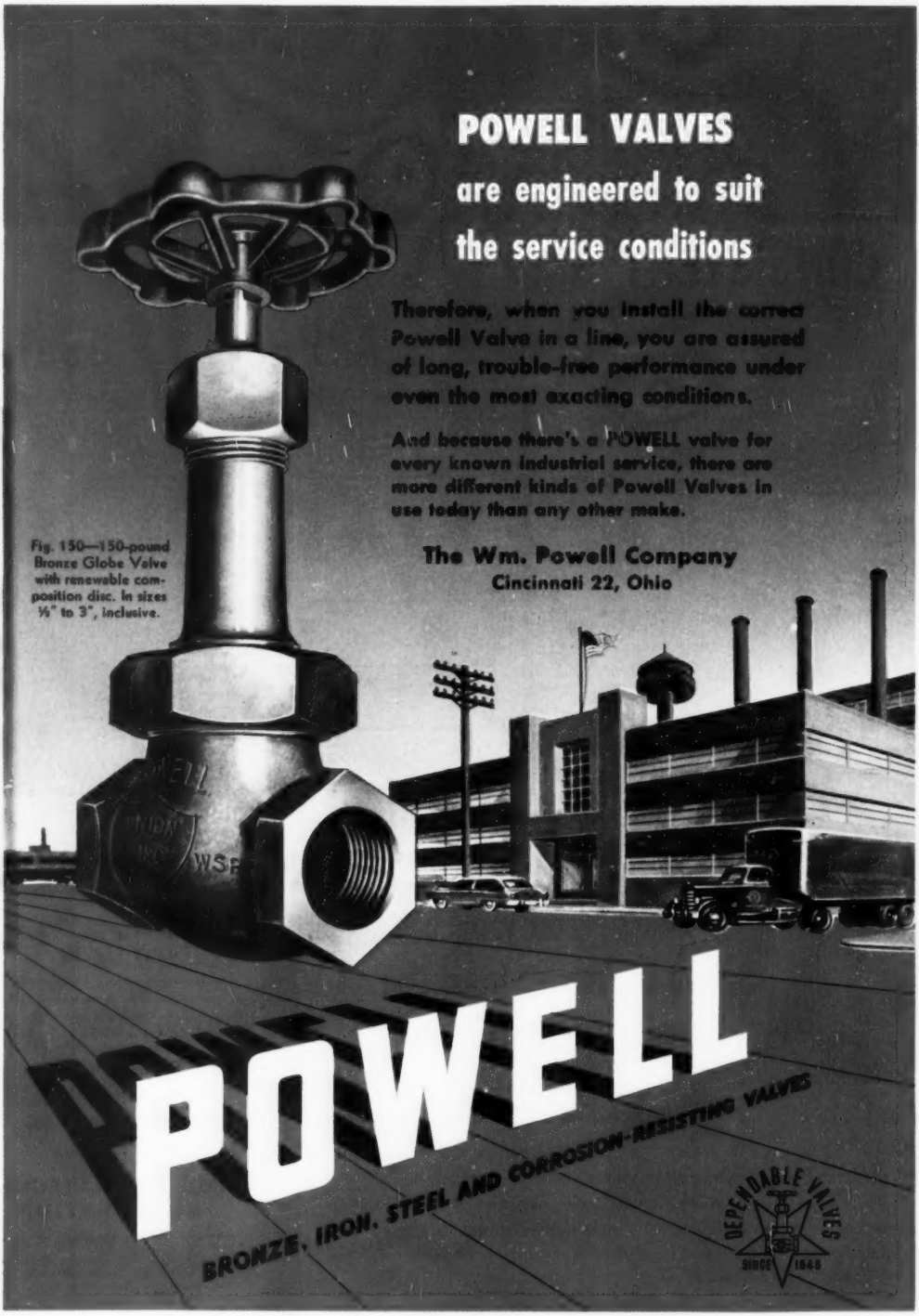
To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION

World's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.


POWELL VALVES
are engineered to suit
the service conditions
Therefore, when you install the correct Powell Valve in a line, you are assured of long, trouble-free performance under even the most exacting conditions.
And because there's a POWELL valve for every known industrial service, there are more different kinds of Powell Valves in use today than any other make.
The Wm. Powell Company
Cincinnati 22, Ohio
Fig. 150—150-pound Bronze Globe Valve with renewable composition disc. In sizes ½" to 3", inclusive.
POWELL
BRONZE, IRON, STEEL AND CORROSION-RESISTING VALVES
DEPENDABLE VALVES
SINCE 1846

How To Prevent "TRICOT TROUBLES"

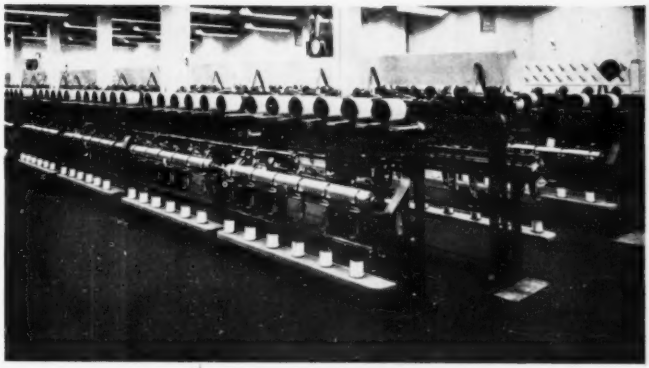
with single end nylon sizing and coning

To be sure of getting first quality yarn at the tricot machine, consider the advantages of single end sizing and coning.

Many of the defects which might stop the tricot machine are eliminated by sizing on the Leesona No. 250B sizing machine. For example:

Runs and Smashes. Sizing places a protective coating around each end of yarn, binds the filaments, and protects the yarn against abrasion that may weaken it during later processing.

Dirt Marks. The size also prevents dirt from penetrating the yarn. Dirt stays on the size coating and is easily removed with the size during scouring.



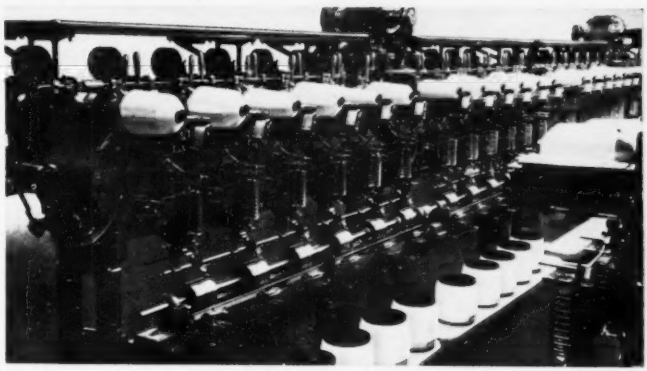
Single-end inspection by precision slubcatchers on the Leesona No. 50 pineapple coner also keeps imperfections from reaching the tricot knitting machine.

Double-ends are caught by mechanical inspection on the coner.

Static is considerably reduced by application of an anti-static oil during coning.

Barre marks and drag marks are reduced when stoppages on knitting machines are held to a minimum.

Nylon yarns processed on Leesona sizing and coning machines run better on tricot knitters.



UNIVERSAL WINDING COMPANY

P. O. Box 1605, Providence 1, R. I.

Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles; Montreal, Hamilton, Canada; Manchester, England; Paris, France; Basle, Switzerland

Agents in every principal textile center throughout the world

Winding and Twisting Machinery for Natural and Synthetic Yarns

AHCOVELS give fabrics a softness you can *see*. You don't have to touch the fabric to know that here is the softest, silkiest hand you ever felt! AHCOVEL-finished fabrics drape softer, too!

These AHCOVEL Features Mean Better Processing Results:

Lasting resistance to usual laundering and dry cleaning.

Good stability to heat and storage.

Odorless.

AHCOVELS E., F. and R. assure full retention of light fastness of any color.

AHCOVELS A. and G. are cationic substantive softeners.

AHCOVELS E., F. and R. are anionic substantive softeners.

AHCO PRODUCTS

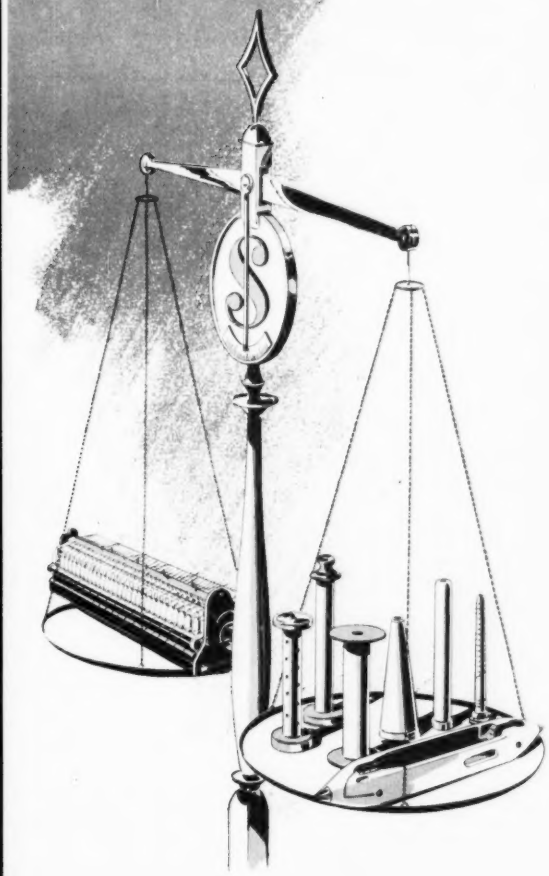
ARNOLD, HOFFMAN

PROVIDENCE • RHODE ISLAND

Associated with
Imperial Chemical Industries Ltd.
London, England

ARNOLD, HOFFMAN & CO., INCORPORATED · EST. 1815 · PROVIDENCE, R. I.
Offices: Charlotte, Cincinnati, New York, Teterboro, Providence
Plants: Charlotte, N. C. · Cincinnati, Ohio · Dighton, Mass.

add up the yearly cost and you'll agree . . .



Yarn Carriers, too, are Capital Equipment

Figure it out for yourself. Add up your yearly costs for bobbins, shuttles, and other yarn carriers. Comes to an impressive total, doesn't it? More than you might pay for several units of processing machinery.

The machinery purchase is recognized to be an investment in capital equipment. Alert management selects the product of a reputable manufacturer, with a record for *delivering* the promised efficiency and economy in mill operation.

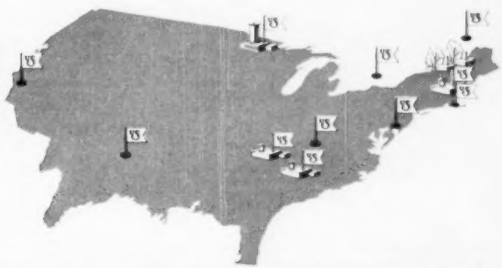
Too often, because the *individual* cost is small, each purchase of yarn carriers is regarded as a "petty cash" transaction. But when their *collective* cost is considered — as much as $80,000 annually in some mills — you'll agree that yarn carriers, too, are capital equipment.

That's why it's good business to buy bobbins and shuttles with the same sharp eye to reliable source and performance records that you use in buying machines.

And that's where U S specialists can help you. Whether you are equipping a new mill or replacing worn out carriers, talk to a U S sales representative first. You'll find it pays . . . in better yarn and fabric quality, and in lower operating costs.

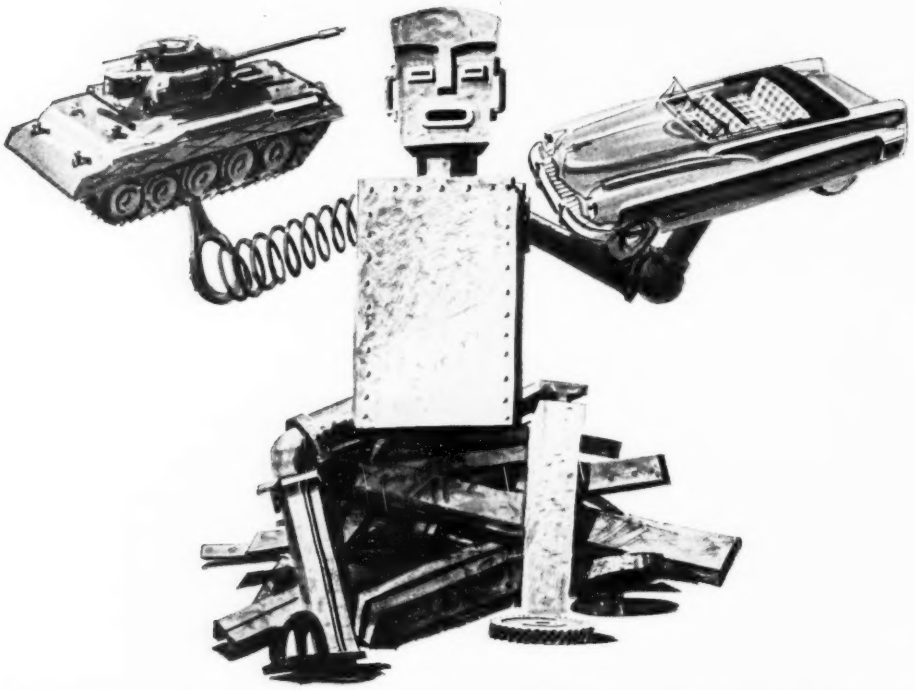
U S BOBBIN & SHUTTLE CO.

LAWRENCE, MASS. PROVIDENCE, R. I. PHILADELPHIA, PA JOHNSON CITY, TENN.
GREENVILLE, S. C. CHARLOTTE, N. C MINNEAPOLIS, MINN.
LOS ANGELES: E. G. Paules, 1762 W. Vernon Ave
DALLAS: O. T. Daniel, Textile Supply Co.
CANADA: W. J. Westaway, Montreal, Que., Hamilton, Ont.



U S owned timber properties permit complete control of wood stock selection and every step in processing, from forest to finished products. Five manufacturing plants, North and South, provide ample facilities to produce and deliver promptly the cost-saving yarn carriers you need, in any quantity.

Anywhere in textile America, you are near the headquarters of a U S specialist in yarn carrier selection. He'll call at your request.



How Can America Produce All the Steel It Needs ... for Military... and Civilian Purposes?

FREE BOOKLET Tells How to Conduct Scrap Salvage Program in *Your* Business.

Address Advertising Council, 25 W. 45th St., New York 19, N. Y.

One way is to feed more pig iron into the furnaces. But . . .

That will require *more* supplies of ore, limestone, coal, etc.*—to say nothing of more new ore boats and rail cars to transport the additional supplies.

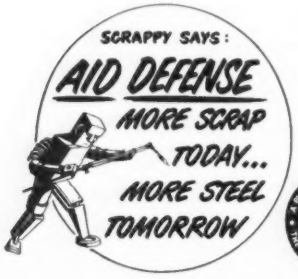
A better way—the *only* practical way—is to use the *dormant* iron and steel scrap lying around in the form of old machines, equipment, tools and metal structures.

Your business *must* have available scrap—in *some* form. That scrap is *needed* to keep the furnaces going in the steel mills . . . to keep our fighting forces and our allies well armed . . . to sustain our civilian life at home.

Think how many ways *you* use iron and steel. Think what would happen if it became extremely scarce. Put your iron and steel scrap to good use—now—by selling it to your local scrap dealer.

Don't delay—the emergency is becoming more severe every day.

*For every ton of scrap fed into the furnaces, we save approximately 2 tons of iron ore, 1 ton of coal, nearly ½ ton of limestone and many other critical materials. Also, scrap helps make steel faster, shortens the refining process.



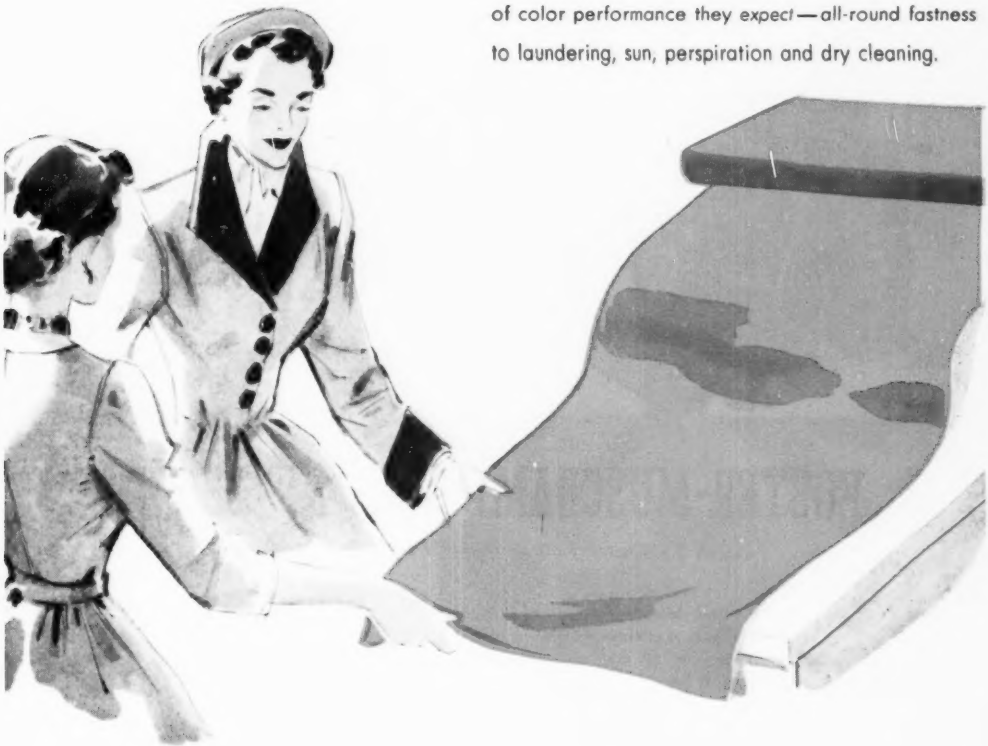
NON-FERROUS SCRAP IS NEEDED, TOO!

This advertisement is a contribution, in the national interest, by

TEXTILE INDUSTRIES

The COLOR that's bought by this up-to-date wife...
Should be COLOR that lasts for the fabric's whole life!

DU PONT VAT DYES give today's shoppers the kind of color performance they expect—all-round fastness to laundering, sun, perspiration and dry cleaning.



Always dye with an eye to the end use.

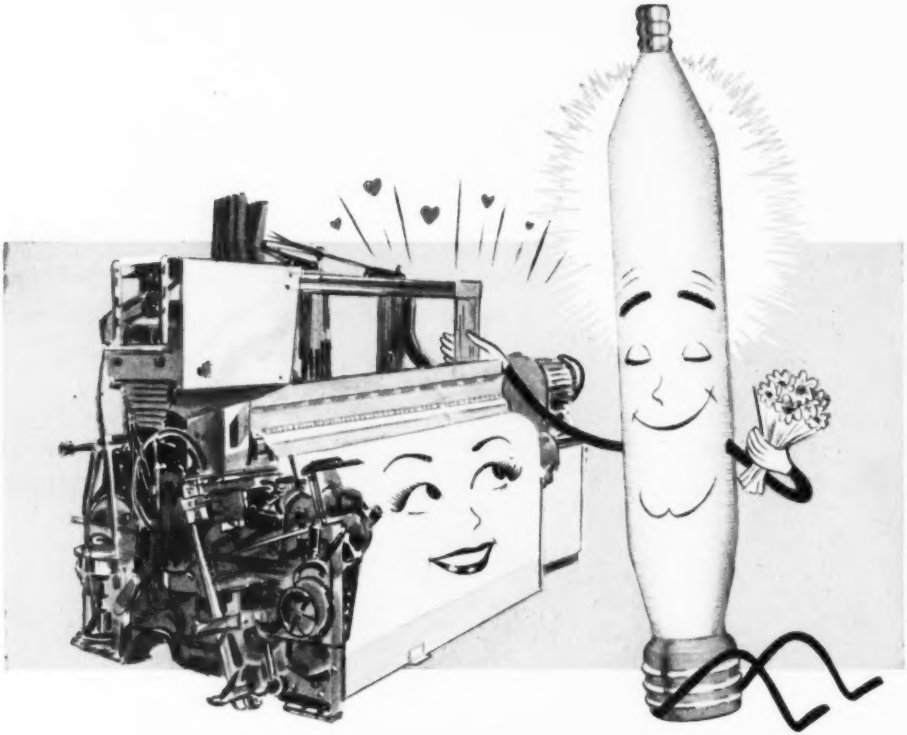
Du Pont Dyestuffs

DU PONT

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

Drapery and slipcover materials are just one application for Du Pont PONSOL* and LEUCOSOL* (anthraquinone-type dyes). Our technical staff will work with you in your choice and application of these uniform, deep-penetrating vat colors. E. I. du Pont de Nemours & Co. (Inc.), Dyestuffs Division, Wilmington 98, Delaware.

*REG. U. S. PAT. OFF.



FOSTER-MUSCHAMP "Autofill" Bobbin

A Synthetic Fabric Loom's Best Friend

The Foster-Muschamp Autofill Bobbin is a synthetic fabric loom's best friend because it enables a loom to perform with much greater efficiency. Being comparatively free of broken filaments and entirely free of hollows and ridges, it greatly reduces tight picks, broken ends, loom stoppage and fabric seconds.

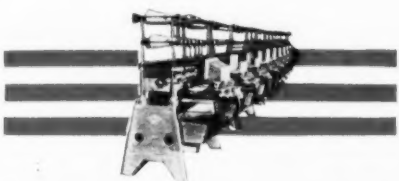
This is because the Foster-Muschamp Autofill Winder precise-winds the yarn on the bobbin by means of a gear control rather than by means of a friction builder wheel. Chafing of filaments is thus eliminated and the lay of the yarn is uniformly correct for the best results.

For the complete story on the Foster-Muschamp Autofill Winder, including six other important features, send for Bulletin M-1 (no obligation).

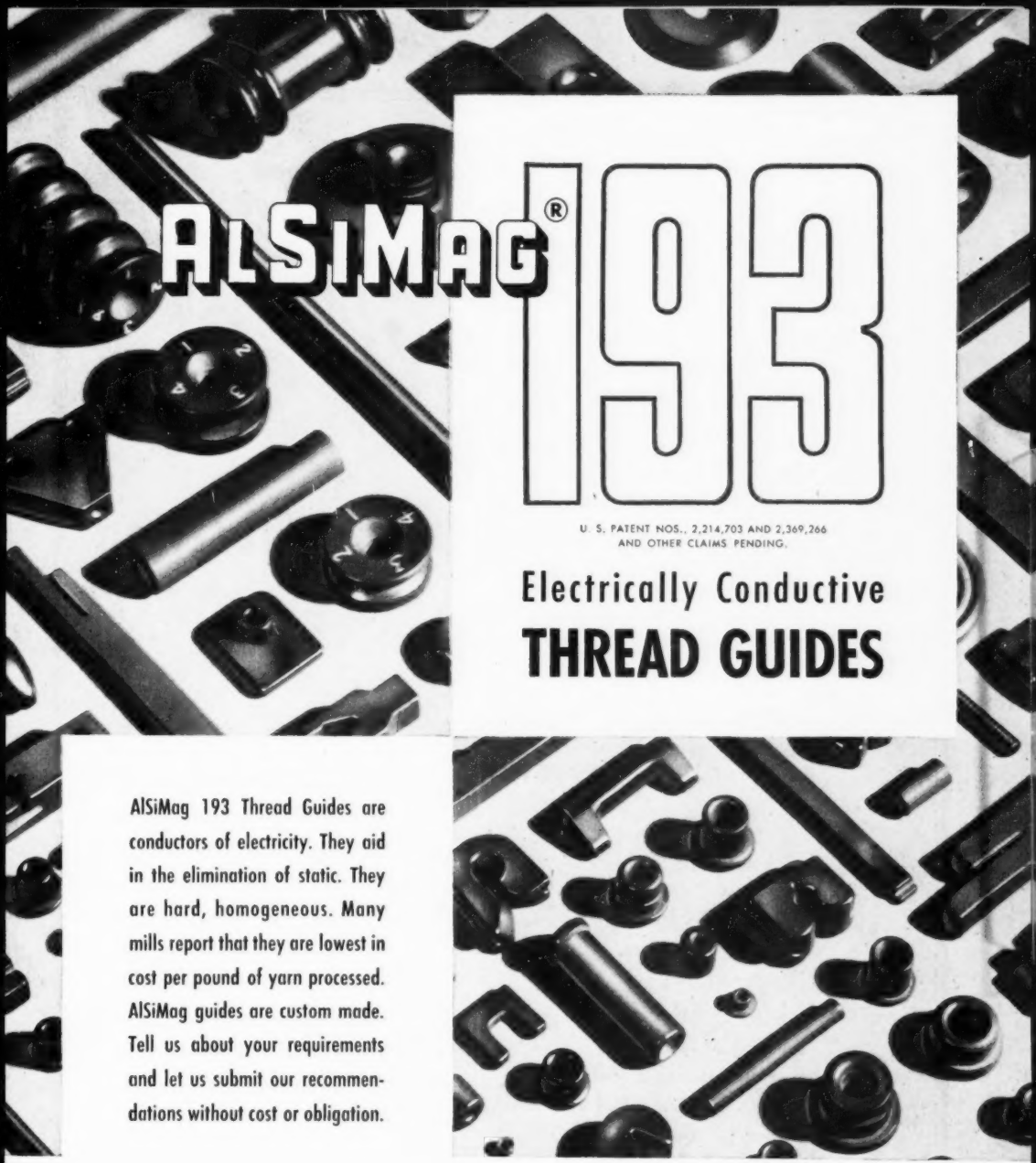
FOSTER MACHINE COMPANY

Westfield, Mass., U. S. A.

Southern Office — Johnston Bldg., Charlotte, N. C.



Foster-Muschamp Autofill Winder — a fully automatic machine, built to cut costs and improve quality.



AlSiMag® 193

U. S. PATENT NOS., 2,214,703 AND 2,369,266
AND OTHER CLAIMS PENDING.

Electrically Conductive
THREAD GUIDES

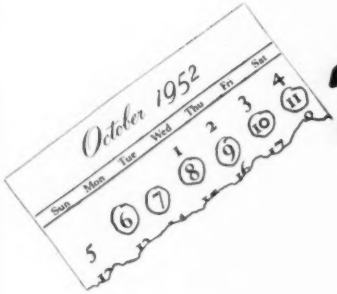
AlSiMag 193 Thread Guides are conductors of electricity. They aid in the elimination of static. They are hard, homogeneous. Many mills report that they are lowest in cost per pound of yarn processed. AlSiMag guides are custom made. Tell us about your requirements and let us submit our recommendations without cost or obligation.

50TH YEAR *OF CERAMIC LEADERSHIP*

AMERICAN LAVA CORPORATION

CHATTANOOGA 5, TENNESSEE

OFFICES: METROPOLITAN AREA: 671 Broad St., Newark, N. J., Mitchell 2-8159 • PHILADELPHIA, 1649 North Broad St., Stevenson 4-2823
SOUTHWEST: John A. Green Co., 6815 Oriole Drive, Dallas 9, Dixon 9918 • NEW ENGLAND, 1374 Massachusetts Ave., Cambridge, Mass., Kirkland 7-4498
LOS ANGELES, 232 South Hill St., Mutual 9076 • CHICAGO, 228 North LaSalle St., Central 6-1721 • ST. LOUIS, 1123 Washington Ave., Garfield 4959



Mark Your Calendar!

TO ATTEND THE

17th Southern Textile Exposition

October 6-11, 1952

TEXTILE HALL

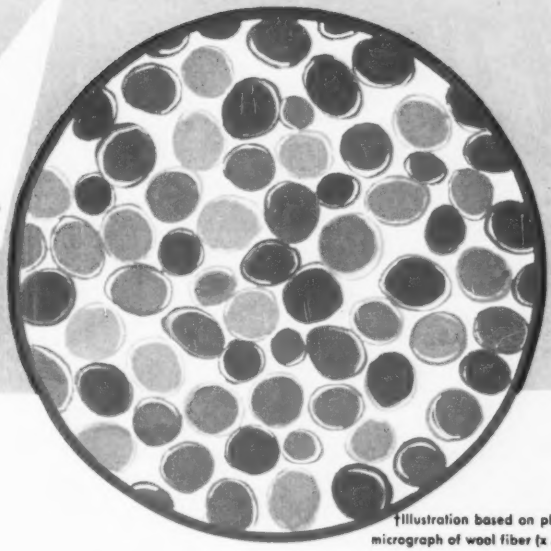
Greenville, S. C.

An opportunity to become acquainted with the latest developments in machinery, equipment, accessories, supplies, and techniques relating to the textile industry.

For information or room reservations, write Textile Hall Corporation, 322 West Washington Street, Greenville, S. C.

"AN INSTITUTION OF THE TEXTILE INDUSTRY SINCE 1915"

END TIPPY DYEING†



†Illustration based on photomicrograph of wool fiber (x 500).

with the new Onyx Levelling Agent

TIPAGON*

Get much better end results at much lower cost.

WRITE FOR TECHNICAL DATA SHEET 28-T

* A Trade Mark of the Onyx Oil & Chemical Company

onyx CHEMICALS FOR DYEING • FINISHING • PRINTING

ONYX OIL & CHEMICAL COMPANY
TEXTILE DIVISION
WARREN & MORRIS STS., JERSEY CITY 2, N. J.
CHICAGO • BOSTON • CHARLOTTE • ATLANTA

This Operator Could Produce

4 TIMES AS MANY Nylons per Day!

...with the NEW SMITH-DRUM Nylon Hosiery Drying Machine

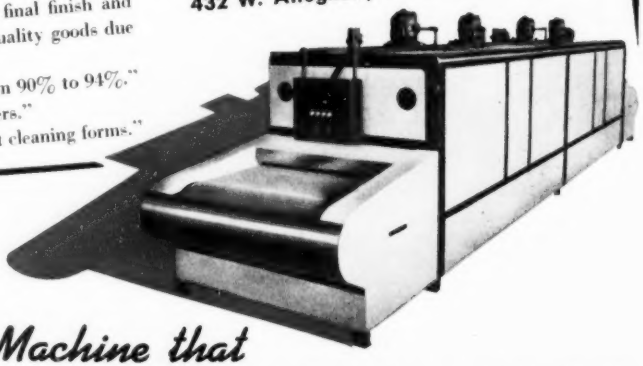
A survey of 20 of the major hosiery mills that have installed the new SMITH-DRUM Hosiery Drying Machine reveals that the average rate of production is 400 dozen pairs per operator per 8-hour day! That compares with 100 dozen pairs per operator with the old post-boarding method which the new process replaced... a 400% increase!

But high production is only *part* of the story. Here are other results, just as reported:

..."Picks reduced from 5% to 2½%."
..."Obtaining relatively crisp final finish and higher percentage of first quality goods due to less picks and snags."
..."First quality work up from 90% to 94%."
..."reduced number of menders."
..."Saves time formerly spent cleaning forms."
..."Greater production in less floor space."
..."Well pleased with results and cost savings."
..."45 ga. 15 denier first quality work rose from 85% to 93%."
..."excellent results on mono-filament 51 ga. 15 denier hose."

These actual results speak for themselves. Complete information will be sent on request.

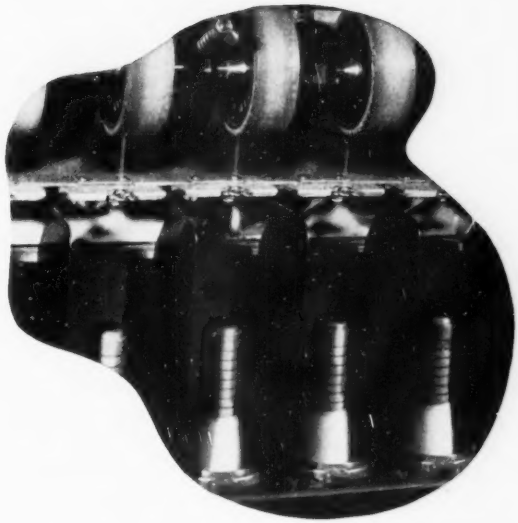
SMITH, DRUM & COMPANY
432 W. Allegheny Ave., Phila. 33, Pa.



The (SMITH-DRUM) *Machine that Abolishes the Slow, Costly Post-Boarding Method!*

Now use SYTON with blends

Syton Produces Greater Yarn Strength In Wool Blends



You've already found Syton, Monsanto's silica dispersion, a profit-booster in woolen and worsted spinning . . .

Now . . . mill trials prove Syton just as advantageous with blends. Smooth rayon staple behaves more like serrated wool fiber when Syton is applied to control inter-fiber slippage. And the proof is in the spinning. Sytonized wool-rayon yarn is 10%-30% stronger; and ends down are fewer—and with Syton you can spin finer counts on all blends, or use *less* twist and get equal yarn strength.

These, and other real advantages, mean *many* production savings all along the line—more profit despite rising costs. You'll want to put Syton to work for you . . . in your plant. So send the handy coupon below for full information.

For full information on Syton*, Sterox 6*, and other Monsanto textile chemicals such as Stymer*, for rayon slashing; Merlon* resins for durable finishes; Resloom*, for washability and wrinkle resistance; Sted*, for cleansing and scouring action; Catalyst AC for curing melamine and urea resin finishes; Dye fixatives; Rezgard*, fugitive-type flame retardant—check and return the coupon. *Reg. U.S. Pat. Off.

MILL A—55-45 wool-rayon blend. Applied 1.5% Syton to wool stock; then blended before carding. Front roll speed increased from 105 to 139 r.p.m.—resulting in over 30% increase in production.

MILL B—50-50 wool-rayon blend. Applied 2% Syton, 3% oil emulsion. Stock carded well and was spun to $3^1/_8$ run yarn. Tensile strength increased from 75 to 89 lbs.—a gain of 18%.

MILL C—80-20 wool-nylon blend. Applied 2% Syton, 4% oil to wool stock; then blended with nylon. Overseer attributed improved spinning to uniformity of sliver and yarn.

MILL D—50-50 wool-Dynel blend. Applied 1% Syton, $2^1/_2$% oil (based on weight of wool) to blended stock. Spun to 6 run. Good control of fibers, smooth, uniform yarn noted.

MILL E—50-50 wool-viscose blend. Applied $1^1/_2$% Syton, 3% oil to wool; then blended with rayon. Mill had used Syton for 18 months on blends, including virgin and darnetted wool, acetate, viscose, and nylon, with consistently good results.

MONSANTO
CHEMICALS — PLASTICS

SERVING INDUSTRY...WHICH SERVES MANKIND

MONSANTO CHEMICAL COMPANY, Textile Chemicals Dept.,
Desk TIT-40, Everett Station, Boston 49, Mass.

Please send me information on: ☐ Syton ☐ Sterox 6 ☐ Stymer ☐ Merlon
☐ Resloom ☐ Sted ☐ Catalyst AC ☐ Dye fixatives ☐ Rezgard

Name & Title _____

Company _____

Address _____

City, Zone, State _____

Our Representatives . . . trained to serve you

We gladly maintain these men to help you get the most out of your card clothing investment. They are fully qualified to survey your card clothing and make recommendations for improving your work and reducing your costs. Feel free to call on your Howard man the next time you have a problem.

Harold S. Bolger
1139-51 East Chelten Avenue
Philadelphia 38, Pennsylvania
Phone GE 8-0500

Ralph C. Shorey
44-46 Vine Street
Worcester 8, Massachusetts
Phone 6-6207

K. McCoy Crytz
244½ Forsyth Street, S.W.
Box 4072
Atlanta, Georgia
Phone Walnut 5250

E. Jack Lawrence
244½ Forsyth Street, S.W.
Box 4072
Atlanta, Georgia
Phone Walnut 5250

Carl M. Moore
219-223 South Linwood Street
Gastonia, North Carolina
Phone 5-5021

Charles A. Haynes, Jr.
749 Narragansett Parkway
Gaspee Plateau
Providence 5, Rhode Island
Hopkins 1-7679

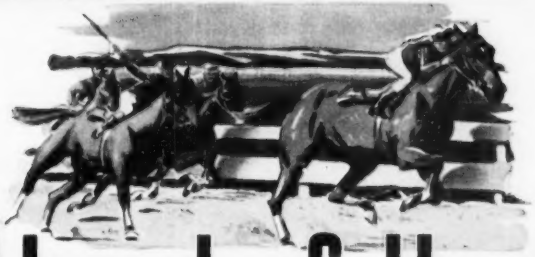
Jack Dempsey
219-223 South Linwood Street
Gastonia, North Carolina
Phone 5-5021

HOWARD BROS. MFG. CO. WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Georgia and Gastonia, N. C. **Branch:** Philadelphia, Pa.

A-5 *Direct Representation in Canada*

. . . IT PAYS TO SPECIFY TUFFER CARD CLOTHING



Ahead of the Field

LOUIS ALLIS

DRIP-PROOF MOTORS

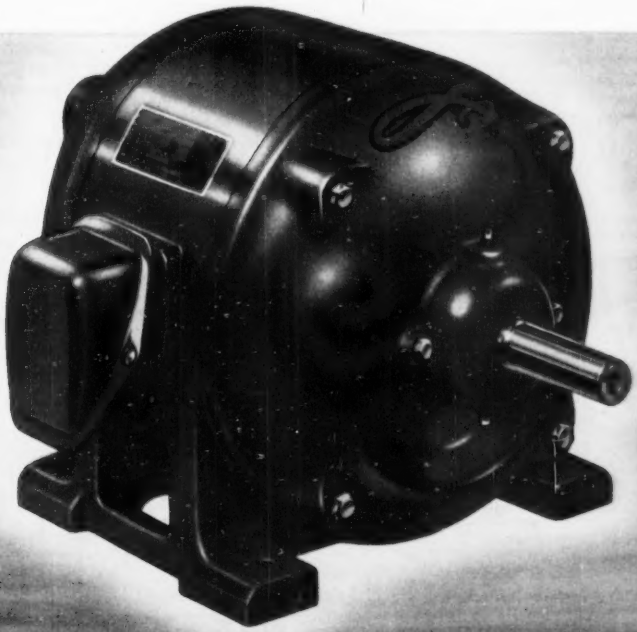
Louis Allis Drip-Proof motors combine with every detail of their pleasing appearance—Quality—Performance—and Stamina. They have the highest type of craftsmanship in their manufacture, ample factors of safety in their rugged design and long trouble-free operating life.

For over 50 years, The Louis Allis Co. has designed and manufactured electric motors to fulfill the changing requirements of an expanding American Industry. As a result, we can offer one of, if not the largest selection of types and sizes of special and standard motors available today. They are available in a complete line — from ½ HP to 1000 HP.

For quick, dependable service, contact your nearest Louis Allis Sales Engineer.

CHAMPIONSHIP PERFORMANCE

THE LOUIS ALLIS CO., Milwaukee 7, Wisconsin



Know how Milco tricot gets its quality air?

The men at Milco set high standards for themselves, and they know how to meet them. Over 95% of their tricot cloth is first quality —which at Milco means three defects or less for 300 racks.

A big factor behind this kind of production is *complete* air conditioning that gives absolute control of temperature and humidity. At Milco, conditions are held at a constant 80 degrees and 60% relative humidity regardless of outside weather.

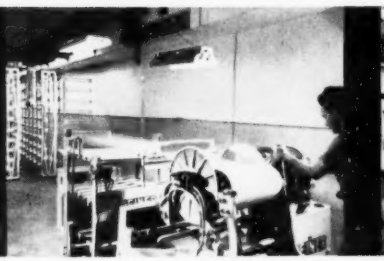
Consequently, the sensitive 28-gauge warp knitting machines stay in proper adjustment, rarely smash or sheer. And the acetate and nylon yarns are always moist and static free.

Which all means that costs are kept down too. Milco is the only integrated tricot manufacturer with products in the popular price field.

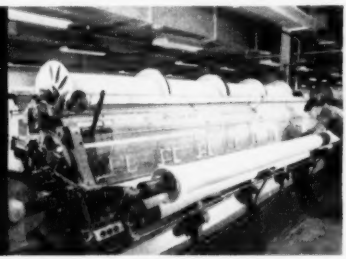
In weaving, knitting, throwing and other operations, quality production and complete air conditioning go hand in hand. It will pay you to let us tell you how your present system can be adapted to complete air conditioning. Write for our textile catalog. Carrier Corporation, Syracuse, N. Y.

Carrier

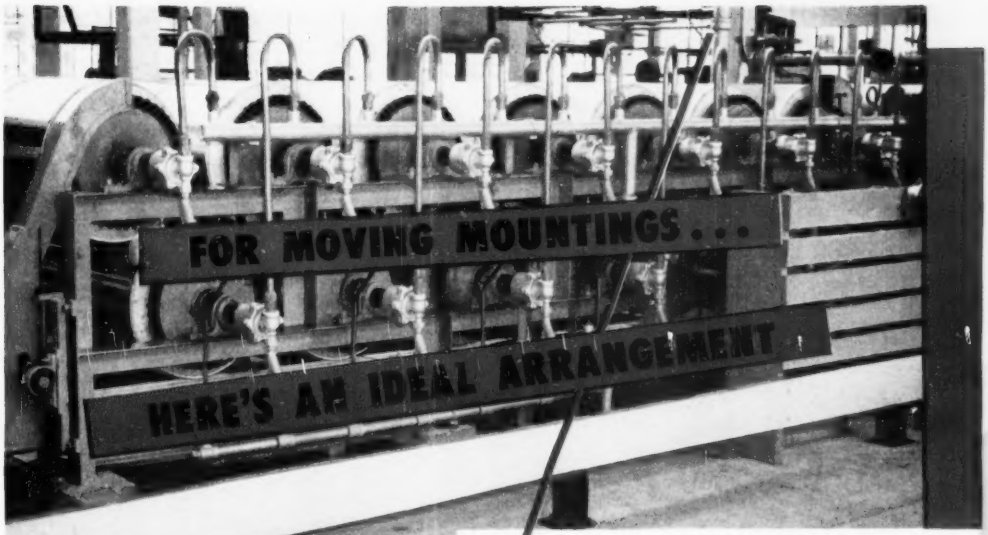
AIR CONDITIONING
REFRIGERATION
INDUSTRIAL HEATING



A Carrier Air Conditioning System, using well water, makes low denier nylon and acetate yarns easy to handle, reduces number of breaks.



Efficiency in this Carrier Air Conditioned knitting room runs up to 99%. Milco products are sold through leading chain and department stores.



No. 400-B Johnson Joints installed on dry cans in well-known New England mill. The copper tubing connections combine adequate support with flexibility — offer an ideal "moving mounting" for such service. Cross section view below points out the many unmatched features of Johnson Joints.

JOHNSON Rotary Pressure JOINTS

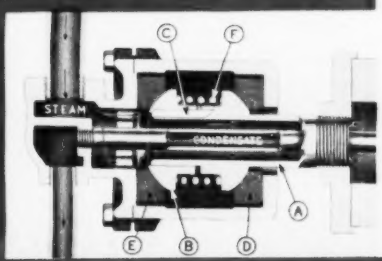
One reason for the tremendous acceptance Johnson Joints have won in the textile industry is their ready adaptability to all operating conditions.

This handsome installation shows an interesting method of mounting Johnson Joints on dry cans. It consists of using copper tubing for inlet and outlet connections, instead of rigid piping. This provides adequate support, yet imposes no pipe strains on the joint. It is, in effect a "moving mounting" that permits the joint to adjust itself to maintain peak operating efficiency.

This method of mounting may be ideal for your needs. There certainly is one which fills the bill exactly. Whichever it is, with Johnson Joints you get a combination of reduced maintenance and improved performance that nothing else can offer.

Operating men can tell you Johnson Joints quickly return their own cost. Most machinery manufacturers will tell you that any dry can, or slasher is better machinery with Johnson Joints. Your own good judgment will tell you not to settle for anything less.

Write for complete information



Completely Packless, Self-Lubricating, Self-Adjusting, Self-Aligning Nipple (A) is connected to roll. Collar (B) is keyed to nipple at (C), but fits loosely so pressure can fill entire housing and act as sealing force. Seal ring (D) and bearing ring (E) are of special carbon-graphite — eliminate all packing and need no lubrication. Spring (F) is for initial seating only. Note room for lateral movement of rotating assembly, spherical seating for angular movement.

Products of The Johnson Corporation

815 Wood St., Three Rivers, Mich.

Rotary Pressure Joints • Compressed Air Separators and Aftercoolers
Direct Operated Solenoid Valves • "Instant" Steam Water Heaters

How Much Per Traveler-Pound?

The true test of a traveler is the number of pounds of top quality yarn which can be spun or twisted with it before it wears out. The more yarn produced, the lower your cost per traveler-pound.

Millmen who keep a sharp eye on production costs always judge travelers on this traveler-pound rating. And that's why so many choose Victor Travelers for spinning or twisting.

Victors consistently cost less per traveler-pound for two reasons. First, because there are no better travelers made, by any test of quality and uniformity. Second, because Victor Service Engineers, all mill-trained men, can quickly grasp your special problems, and come up with the right answer.

They can not only recommend the *right* traveler, but can often make other suggestions for improving your quality and production, —whether you are running conventional fibers, synthetics, or blends.

Plan now to talk to a Victor man about your costs per traveler-pound. Write, wire, or phone the nearest Victor office . . . for prompt service.

•

Keep a Step ahead with

VICTOR Ring Travelers

VICTOR RING TRAVELER COMPANY

PROVIDENCE, R. I. . . . . 20 Mathewson St. . . . . Tel. Dexter 1-0737

GASTONIA, N. C. . . . . 358-364 West Main Ave. . . . . Tel. 5-0891

SARGENT'S *All-job, All-fibre, Single process*

WET-and-DRY PICKER

Opens and picks dry rayon staple fibre as easily and efficiently as it handles wet cotton fibre after bleaching and extracting, prior to drying. Delivers soft, lofty, thoroughly mixed clean fibres; Sargent-designed for maximum, continuous, trouble-free production. Extremely rugged construction insures even, fast picking and beating operations without vibration. Feed apron may be equipped to handle maximum-height feed loads.

Built in widths 18 to 72 inches.

Production 600 to 1,000 pounds per hour.

SARGENT'S AUTOMATIC FEEDER
Model N — recommended for continuous, even feeding with the Wet-and-Dry Picker, to maintain production capacity.

SINCE 1852

LARGEST MANUFACTURERS OF STOCK DRYING AND WOOL WASHING EQUIPMENT IN AMERICA

C. G. SARGENT'S SONS CORPORATION

Graniteville, Massachusetts, U.S.A.

REPRESENTATIVES

F. E. WASSON
519 Murdock Rd. ★ Philadelphia 19, Pa.

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215 Grove Ave. ★ Cincinnati 15, Ohio

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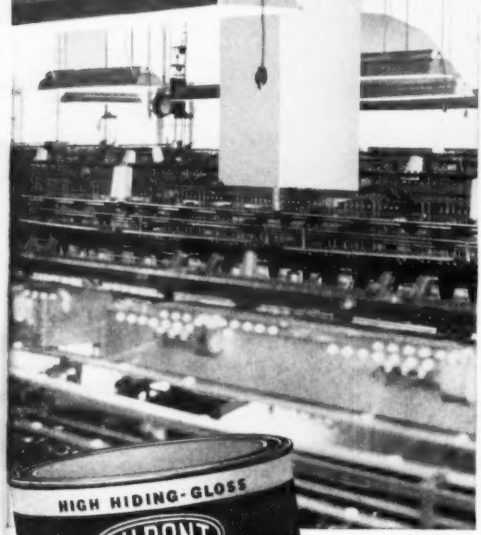
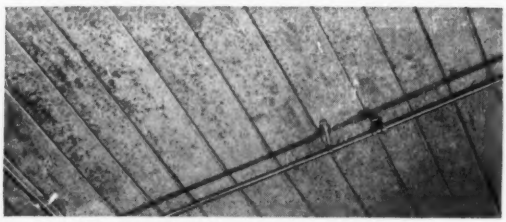
M. F. BECKER & ASSOCIATES
122 So. Michigan Ave. ★ Chicago, Ill.

HUGH WILLIAMS & CO.
47 Colborne St. ★ Toronto 1, Canada

Guard against mildew!





MILDEW FORMATION like this prevents light reflection . . . destroys paint film . . . promotes decay.

NOTE THE CONTRAST. After long exposure this "DULUX" paint film is still white, still resisting the formation of mildew.

DU PONT

PAINTS

Chemically engineered to do the job better

. . . resists yellowing
. . . keeps mill interiors white

Du Pont DULUX Mildew-Resistant Maintenance White Enamel gives you maximum return on your maintenance-painting investment. Specially formulated for textile-plant interiors, these three superlative characteristics have been built into DULUX:

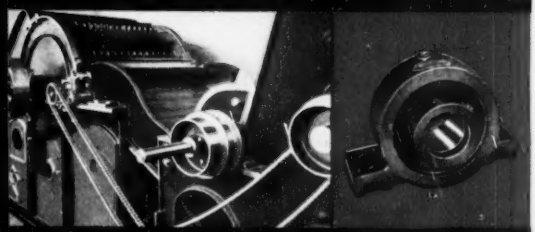
1. MILDEW RESISTANCE . . . control of destructive, light-robbing mold formation through the incorporation of an inhibitor in the DULUX formula. Extremely toxic to mildew yet harmless to painters and workers. (Where mildew is especially severe, Du Pont Mildew-Resistant Undercoat is recommended.)

2. HIGH HIDING . . . one-coat application, more coverage per gallon. The intense hiding of DULUX Maintenance White has been famous in the textile industry for years.

3. RESISTANCE TO YELLOWING . . . an outstanding DULUX characteristic, proved in hundreds of textile plants. Long after application, a DULUX Maintenance White surface is still brilliant white, still smooth as tile, still easy to clean.

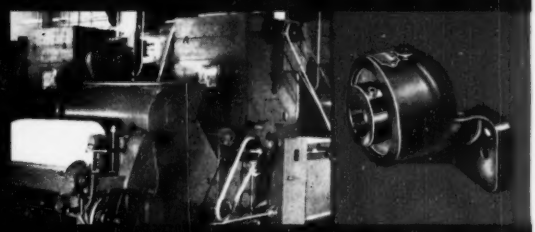
Next time your plant needs maintenance painting, specify DULUX. For lasting protection, it fills the bill. For the sake of economy, it cuts the bill. Write E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Dept. TI-23, Wilmington, Delaware.

Bottom Apron Unit - Bale Breaker

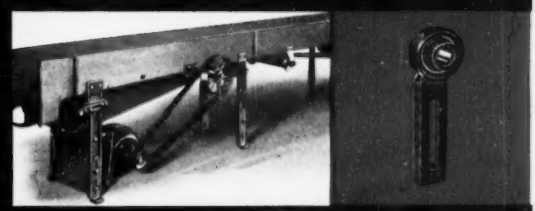


Beater Box Unit

Lifting Apron Unit

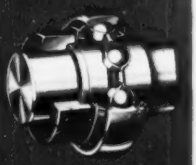


Picker Fan Box Unit



Apron Adjusting Bracket

Fafnir Wide Inner Ring Bearing with Self-locking Collar, easiest of all to install



TURNING POINTS
to lower costs
in Opening, Cleaning and Picking

Right from the start of your mill operations, Fafnir ready-to-mount textile ball bearing units can save you money. For example, on Vertical Openers where bearing loads are high, Fafnir ball bearings ease the load, lighten wear, increase belt life, remove the fire hazard of dripping oil and maintain the general overall efficiency of the machine.

You can get Fafnir Textile Units in such a wide variety of types that no vital turning point need be without the benefits of anti-friction bearings. Because these units are designed for specific points on specific machines . . . bale breakers, hoppers, blending feeders, pickers, etc., . . . you'll find their installation easy and fast. What's more, practically all units have the Fafnir Wide Inner Ring Ball Bearing with self-locking collar, easiest of all to install.

Get acquainted with the complete Fafnir Textile Line and its possibilities for lowering your costs of production. Send for the latest catalog on Textile Units. The Fafnir Bearing Company, New Britain, Conn.

Other FAFNIR UNITS for Opening Cleaning Picking

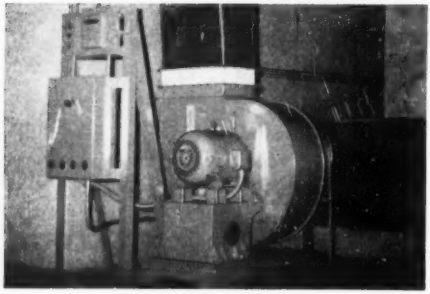
- LAK Type Pillow Block
- Frame and Take-Up Unit
- Lifting Apron Unit — Saco-Lowell F5 Feeder
- Idler Cone Unit — for P & D Evener
- Adjustable Lifting Apron Unit — No. 4 Saco-Lowell Bale Breaker
- Evener Cone Unit — Saco-Lowell Picker
- Lifting Apron — Saco-Lowell F5 Feeder
- Slat Conveyor Roll Unit — Saco-Lowell Opening Room Equipment
- Side Shaft — Saco-Lowell Picker
- Apron Adjusting Bracket — Saco-Lowell Lattice Conveyor
- Apron Adjusting Bracket — Saco-Lowell Blending Reserve
- Breaker Shaft Unit — No. 4 Saco-Lowell Bale Breaker
- P & D Evener Unit — Saco-Lowell Picker
- Box-worm Gear — Top Cone Shaft P & D Evener
- Unit-Doffer Beater for Kitson Hopper
- Calender Rack Assembly Units

FAFNIR
BALL BEARINGS

MOST COMPLETE LINE IN AMERICA

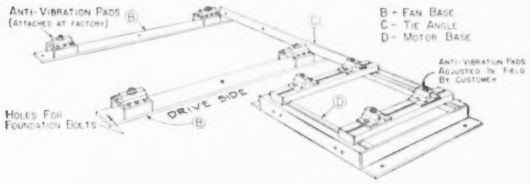
"Buffalo" *Tips on Getting the Best Service from your* **Fans**

ISOLATE FAN AND MOTOR NOISE FROM THE SYSTEM



1. *With canvas duct-to-fan connections —*

Today's correctly designed fan is a quiet running fan. However, any noise or vibration in the fan or motor can be transmitted throughout the ducts. Canvas or other flexible connecting material can isolate much of the noise at its source.

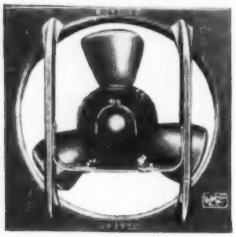

ANTI-VIBRATION PADS (ATTACHED AT FACTORY)
B - FAN BASE
C - TIE ANGLE
D - MOTOR BASE
ANTI-VIBRATION PADS ADJUSTED IN FIELD BY CUSTOMER
HOLES FOR FOUNDATION BOLTS
DRIVE SIDE

2. *With rubber insulation base* →

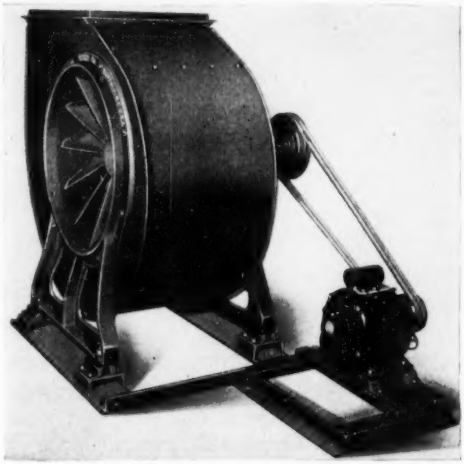
Another place to isolate any vibration or noise is at the fan base. At right, is shown the "Buffalo" Silent Floating Fan base adaptable to any arrangement of "Buffalo" Limit-Load Fan. Adjustable anti-vibration pads effectively insulate the fan from the foundation, as far as noise is concerned. "Buffalo" Limit-Load Fans are extremely quiet to start with, since all wheels are dynamically balanced at the factory for vibrationless operation. Also, "Buffalo" backward double curved blades, special scroll housing shape and inlet guide vanes further reducing noise.

3. *Resilient-mounted motors*

Where fans are direct-connected to the motor, there is more opportunity for vibration to be transmitted from motor to fan and vice versa. In all "Buffalo" disk fans like this BREEZO Fan shown, the motors are resilient-mounted and the wheels in balance. For further information on the question of fan or system noise, the "Buffalo" engineering staff will be happy to assist you.



"Buffalo" Breezo Fan, one of a complete line of propeller fans for low-cost local ventilation.



"Buffalo" Limit-Load Fan with silent, floating base. Sizes available from 600 to 500,000 cfm. WRITE FOR BULLETIN 3737.

"Buffalo" FIRST FOR FANS

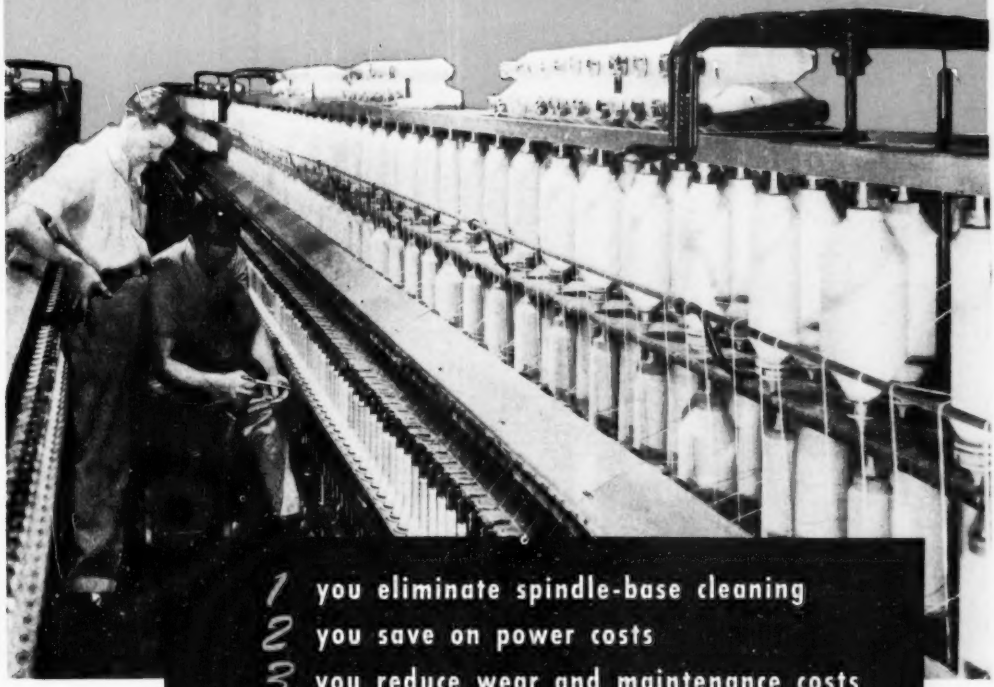
BUFFALO FORGE COMPANY

175 MORTIMER ST. BUFFALO, N. Y.

Canadian Blower & Forge Co., Ltd., Kitchener, Ont. Sales Representatives in all Principal Cities

VENTILATING FORCED DRAFT | AIR WASHING COOLING | AIR TEMPERING HEATING | INDUCED DRAFT EXHAUSTING PRESSURE BLOWING

you cut costs 3 ways with GULFSPIN OIL



1 you eliminate spindle-base cleaning
2 you save on power costs
3 you reduce wear and maintenance costs

Spindle blades and bolsters stay clean when they are lubricated with the new Gulfspin. Here is the important reason: Gulfspin not only has the inherent ability to resist the formation of harmful products of oxidation, but also prevents their deposit on spindle surfaces.

Thus the need for costly cleaning of spindles and bolsters is eliminated — parts wipe clean easily. And the absence of sludge helps prevent spindle hunting, lagging, and vibration. Result: reduced end breakage, lower maintenance costs.

Gulfspin, unlike conventional spindle oils, does not appreciably increase in viscosity even after extended use. This accounts for reports from users telling of substantial savings in power costs.

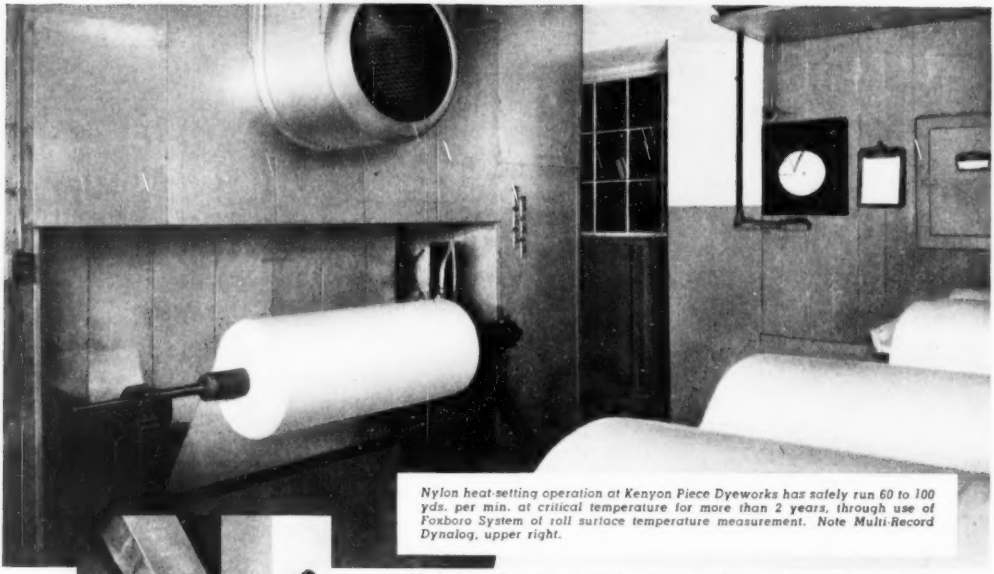
Gulfspin also has excellent oiliness characteristics. In cast iron bolsters it reduces the wear rate experienced with ordinary oils, insures freedom from spindle wobble.

See for yourself — on your frames — that this new spindle oil is better in every way. Write, wire, or phone your nearest Gulf office today.
Gulf Oil Corporation · Gulf Refining Company
Gulf Building, Pittsburgh 30, Pennsylvania

GULF INDUSTRIAL LUBRICATION

New Efficiency for Hot-Roll Processes

...through continuous measurement of roll surface temperatures



Nylon heat-setting operation at Kenyon Piece Dyeworks has safely run 60 to 100 yds. per min. at critical temperature for more than 2 years, through use of Foxboro System of roll surface temperature measurement. Note Multi-Record Dynalog, upper right.

Foxboro Measuring Heads on National Drying Machine Corporation Nylon fabric heat-setting machine at Kenyon continuously measure roll surface temperatures.

A UNIQUE NEW FOXBORO temperature measuring system now is making possible radically improved results in operating hot-roll equipment such as calenders, slasher cylinders, contact-type cylinder dryers, and pressing machines.

Based on an exclusive new-type Foxboro measuring head, coupled with the instantly-responsive Dynalog Electronic Recorder, this system provides continuous, precise records of roll surface temperatures that permit closer control than ever before obtainable.

One typical example is the Nylon fabric heat-setting operation at Kenyon Piece Dyeworks, Kenyon, R. I. Here, six Foxboro roll surface measuring heads on the 6-roll heat-setting machine are connected with a 6-point Multi-Record Dynalog*. The resulting accurate records permit uniformly safe heat-setting at 435° F., even though the melting point of nylon is only 465° F.

If you have a critical hot-roll process, investigate the unique Foxboro System for measuring roll surface temperatures. Write for Bulletin 405. **The Foxboro Company, 483 Neponset Ave., Foxboro, Mass., U. S. A.**

*Reg. U. S. Pat. Off.

FOXBORO
REG. U. S. PAT. OFF.

RECORDING · CONTROLLING · INDICATING INSTRUMENTS

FACTORIES IN THE UNITED STATES, CANADA AND ENGLAND

New Sizing Gives High Efficiency on Difficult Weaves

DEVELOPED ESPECIALLY FOR SPUN RAYON WARPS AND VARIOUS COMBINATIONS OF STAPLE VISCOSE RAYON WITH OTHER STAPLE FIBERS

Sta-Gel is a new kind of sizing developed by Staley at the request of rayon mills especially for sizing viscose spun rayon warps. It works equally well on various combinations of spun viscose rayon with acetate rayon, wool, cotton and other staple fibers.

Rayon mills now using *Sta-Gel* report it gives far better sizing results on *difficult* rayon weaves.

SMOOTHER, TOUGHER SIZE—Each fiber is protected with a smoother, more rugged size. Fewer "fuzz balls." Makes difficult constructions easier to weave than ever.

MORE STRENGTH & BINDING POWER—*Sta-Gel* binds the wild fibers to the body of the yarn adding extra strength and weavability.

REDUCES SHEDDING—*Sta-Gel* reduces shedding appreciably in mill operation.

IMPROVED LOOM EFFICIENCY—Gives you outstanding loom efficiency on your most complicated spun rayon weaves—lower percentage of seconds.

EASIER DESIZING—*Sta-Gel* desizes perfectly by any conventional desizing method.

COSTS LESS—because *Sta-Gel* goes farther, you can cut your size consumption noticeably, and get lower cost sizing for all types of weaves.

If you are not already using Sta-Gel, get the facts about this new type, high efficiency spun rayon warp size. Send the coupon now!

STA·GEL

MADE BY STALEY'S
High Efficiency Spun Rayon Size
A. E. STALEY MFG. CO. • Decatur, Ill., U. S. A.
Dependable Service from

Atlanta, Ga. Chicago, Ill. New York, N. Y.
Boston, Mass. Decatur, Ill. Philadelphia, Pa.
San Francisco, Calif. Spartanburg, S. C.

STALEY

Staley PRODUCTS

Research Pioneers in Products from CORN and SOY BEANS

A. E. Staley Mfg. Co.
Dept. TI-3
Decatur, Illinois

Gentlemen:

I'm interested in Sta-Gel... please rush me full details about this new, better kind of rayon sizing.

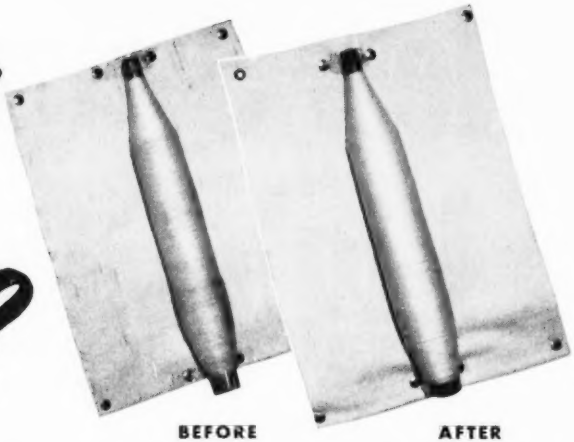
*Name*_____

*Company*_____

*Address*_____

*City*_____ *Zone* ____ *State*_____

Smug about Smog?



BEFORE — Samples of yarn and cloth prior to installing an AMCO electrostatic air cleaning system. Repeated washings were unsuccessful in removing smudge from cloth.

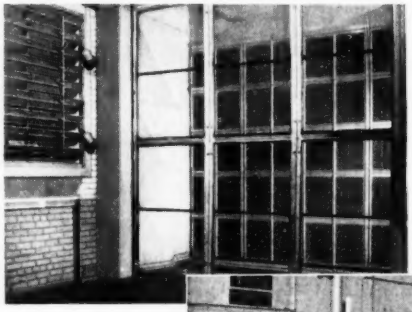
AFTER — Following the installation of an Amco central station with electrostatic filters, these results were obtained. Freedom from carbon and dirt in air spelled the big difference!

YOU CAN'T AFFORD TO BE...
HERE'S PROOF...

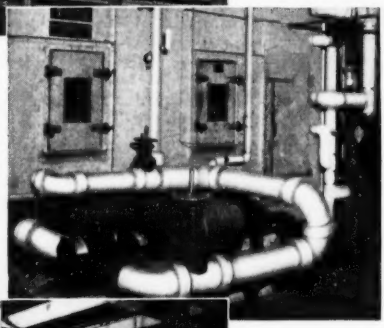
"Don't put up with dirty air, if you want to put up superior yarns" . . . recommends York Knitting Mills, Toronto, Canada, where filtering and washing air *pays off* . . . in better quality yarns! And the "Before and After" pictures reproduced above give graphic support to that advice.

An Amco central station air conditioning system delivers *only* air that's custom tailored . . . to the proper degree of temperature; to the exact relative humidity desired; and most important . . . air just as fresh and clean as a breeze off the ocean! No wonder results are uniformly outstanding . . . regain maintained; yarn counts kept more even; static electricity eliminated; closer machine adjustments and higher speeds maintained; less broken fibers, dust and fly; cleaner yarns and cloth; stronger, smoother and more uniform fabrics; greater worker comfort and efficiency — to mention a few.

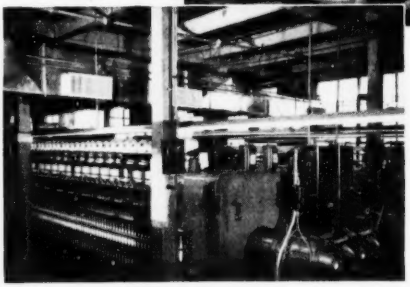
Amco has *both* duct and ductless systems — and can install humidification, evaporative cooling or central station air conditioning, alone or in combination. You can rely on Amco for impartial advice on the installation best suited to your needs. Call an Amco engineer.



Plenum chamber showing recirculating air dampers with damper motors at left; lint screens in foreground; electrostatic filter in background.



Centrifugal pump and piping which operates air washer in background.



Spinning room — showing air supply duct with atomizers over each air outlet mounted on air and water pipes.

AMCO

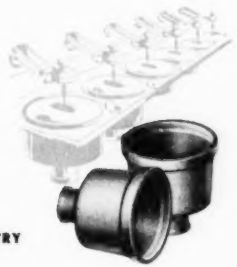
AIR CONDITIONING SYSTEMS

Humidification • Evaporative Cooling • Central Station

AMERICAN MOISTENING COMPANY
AFFILIATED WITH GRINNELL COMPANY, INC.
PROVIDENCE, R. I.
ATLANTA • BOSTON • CAMDEN • CHARLOTTE

micarta is basic!

In many places in your production



TEXTILE INDUSTRY

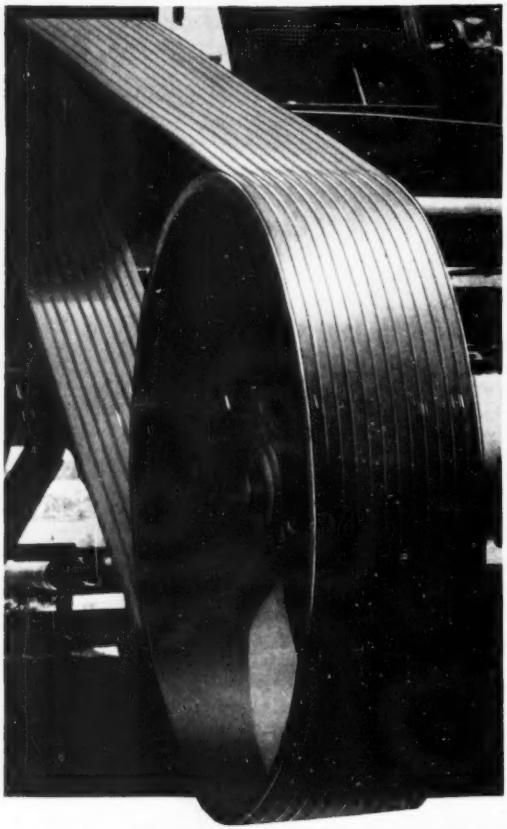
Lap rolls, pirns, picker-sticks, shuttles . . . MICARTA® is handling more and more of these key textile jobs better and longer than either metal or wood. MICARTA is a basic material. It is lighter than aluminum . . . pound for pound this plastic has a compressive strength greater than structural steel. It cannot rust.

MICARTA will not fuse. It kills noise and absorbs vibration. It can be machined, formed or fabricated easier and more economically than metal.

MICARTA is part of the textile future. Explore its possibilities in your plant. Westinghouse Electric Corporation, Micarta Division, Trafford, Pennsylvania. J-06414-A

MICARTA is paying its way. As a basic material it can serve the textile industry in rings, separators, guide rollers, spools, bobbins, shuttles, rolls, bearings, inspection forms and tables, pulleys, picker-sticks.

In fact, wherever tough, light and even-wearing parts are a "must" to production, there you will find a place for versatile MICARTA.



How to get Teamwork out of V-Belts

1 Match them for length*

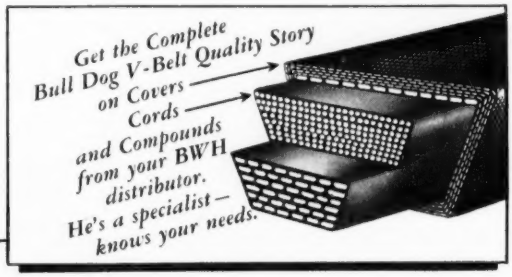
2 Match them in make*

3 Check sheaves for alignment and groove wear

4 Install Sets of Bull Dog V-Belts for Uniformity of Quality...

**Should* an individual belt fail, it is neither practical nor economical to replace it with a new belt. The new belt may be either shorter or longer than the remaining belts. If shorter, the excessive overload it must carry will cause early failure. If longer, it will not carry its share of the load, thus adding nothing to the life of the drive.

You can't be sure about length or compare hours worked unless you install new V-Belts by the set. You can't be sure of uniformity of quality unless you install Bull Dogs.



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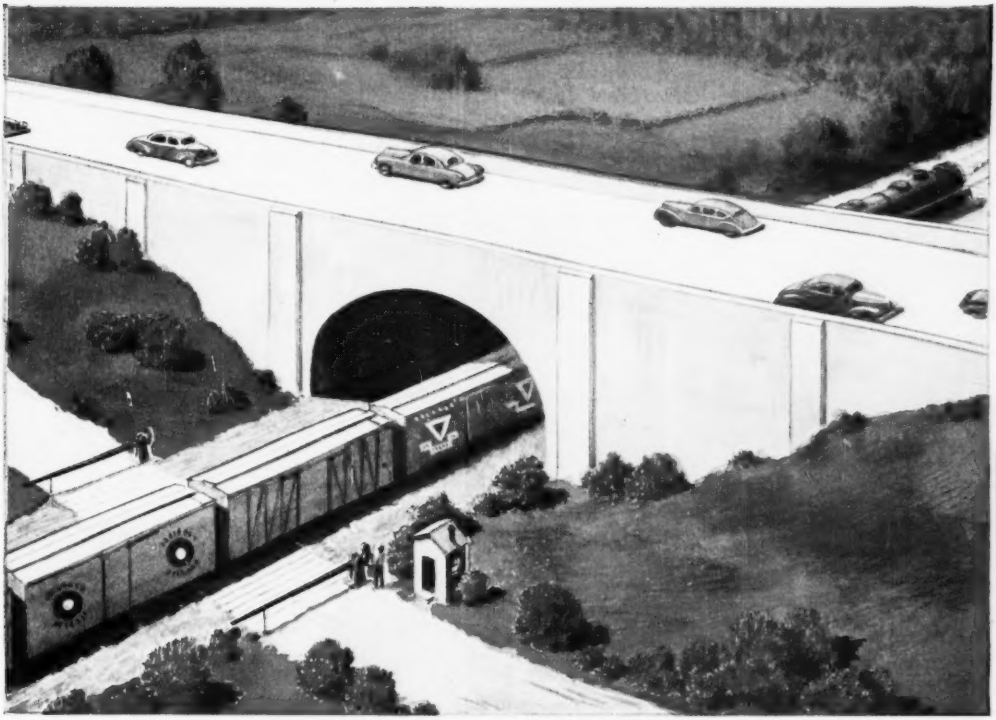
DEPENDABLE RUGGEDNESS

Another Quality Product of

BOSTON WOVEN HOSE & RUBBER COMPANY

Warehouse Stock: 111 N. Canal St., Chicago, Illinois **Distributors in all Principal Cities**

PLANT: CAMBRIDGE, MASS. • P. O. BOX 1071, BOSTON 3, MASS., U. S. A.



EASE AND SPEED...WITH SAFETY

Today, trouble is by-passed on modern highways planned for speed and safety.

Many troubles can be by-passed in your finishing operations, too, when you use Diastafor de-sizing agents. Finishers and dyers, now more than ever, rely on Diastafor for easy, fast, economical de-sizing.

Diastafor de-sizing agents – available in three popular types, L, LC and D – are giving miles of trouble-free operation. Workable in a very wide temperature and pH range, which meets every enzyme de-sizing requirement, Diastafor adapts itself readily to varying conditions.

Diastafor works equally well on rayons, cottons, or mixed goods. It helps give you even dyeing and a smooth finish time after time. It treats yard goods kindly – leaves them streak- and blemish-free. It gives excellent results in continuous processing.

The favorite for more than 40 years, Diastafor has earned its leadership by bringing ease, speed and safety to de-sizing operations.

If we can help you with your finishing problems, please call on us. Our sales and technical staffs are here to help you. Address Standard Brands Incorporated, Diastafor Department, 595 Madison Avenue, New York 22, New York.

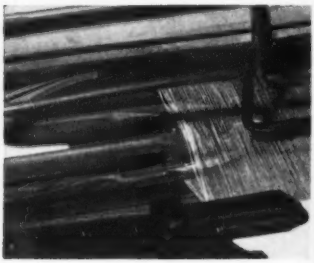
DIASTAFOR

A TRADE MARK OF STANDARD BRANDS INCORPORATED

Here's Exactly what you can See

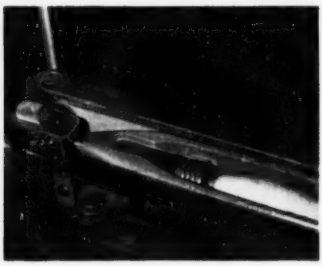
on any Loom

with the New Type 1532-B **STROBOLUME**

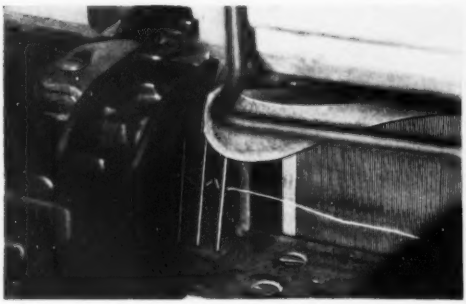


Entrance of Shuttle Into Shed

Flexing of Shuttle Check Strap Just After Picker Stick Strikes It on Forward Motion



Boxing of the Shuttle



Action of Filling In Side Fork Filling Motion

Photo Courtesy Lowell Textile Institute, Lowell, Mass.

With the new Type 1532-B STROBOLUME and the new Type 1535-A Magnetic Contactor, all of these loom operations can be seen just as clearly as they were photographed with this equipment.

In addition, these important motions can be observed, to check their performance or to explain their operation:

Flight of Shuttle *Behavior of Filling on Bobbin*
Looping of Filling as Shuttle Enters the Shed
Boxing of Shuttle *Contact of Filling Feeler and Bobbin*
Transfer of Bobbins *Action of Cutters*
Clearance of Protection
Raising of Parallel Shoe from Parallel
Behavior of Beat Up *Flexing of Picker Sticks*
Checking of Mesh Gears

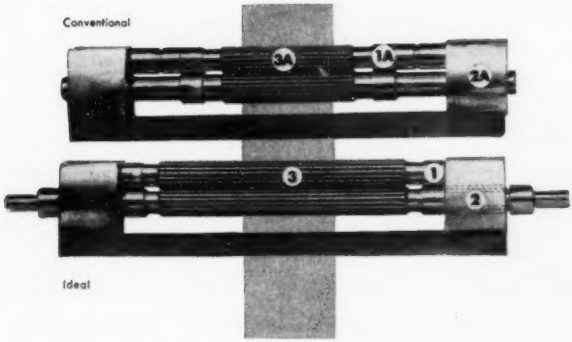
In your maintenance and daily operation isn't it of great importance for you to KNOW that all of these motions of the loom are performing properly? The new Type 1532-B STROBOLUME is the answer. Let us tell you why.

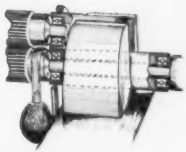
Write for a copy of **STROBOSCOPIC EYES FOR INDUSTRY**

GENERAL RADIO Company

275 Massachusetts Avenue, Cambridge 39, Mass.

90 West St. NEW YORK 6 920 S. Michigan Ave. CHICAGO 5 1000 N. Seward St. LOS ANGELES 38





This Picture can be Worth $1,000.00 per Drawing Frame to you

This comparison between Ideal High Speed Drawing Units* and ordinary units shows why Ideal produces almost twice as much sliver, saves over 58% in maintenance costs, produces stronger and far more uniform roving, and nets you, during its lifetime, at least $1,000.00 per frame in operational savings alone.

Perfect Alignment and Synchronization

In ordinary units, the spacing collars (1A) transmit most of the power, and unequal wear starts almost immediately. This causes misalignment of rolls and unequal tension between roll sections . . . bruising and shearing the stock and causing thick and thin places in the sliver. Ideal spacing units (1) ride on ball bearings on the drive shaft and transmit no power, never wear, never cause misalignment or unequal tension between roll sections, and permit Ideal units to produce uniform stock at continuous high speeds.

No Friction or Wear on Bearings

The entire weight of ordinary rolls rests on this roll neck (2A). This causes wear and high power consumption. On Ideal units (2) the weight is supported by the outer housings of the spacing units (1) and no friction is transmitted to the necks, which run freely in the ball bearings. This permits smooth, quiet, high speed operation at extremely low cost for power.

Extra Width Hardened and Ground Fluted Section

Ideal's 10½ inch fluted sections (3) can be operated with the conventional 6 to 10 ends up at back, or from laps 18 ends up, and can take 9 inch laps direct . . . far more versatile than the conventional 6 inch flutes (3A). Fluted sections are hardened and ground to prevent nicking, burring, lap-ups and work stoppages, and to assure better crimping action.

Ideal's superior construction permits higher sustained speeds and smoother operation, eliminates 90% of the ordinary downtime for frequent cleaning, removing nicks and burrs, and oiling; and cuts operating labor costs. Actual production records from some of the finest mills show that our claim of $1,000.00 savings in operating costs is conservative. Let us show you how you can profit by installing Ideal High Speed Ball Bearing Drawing Equipment in your mill.

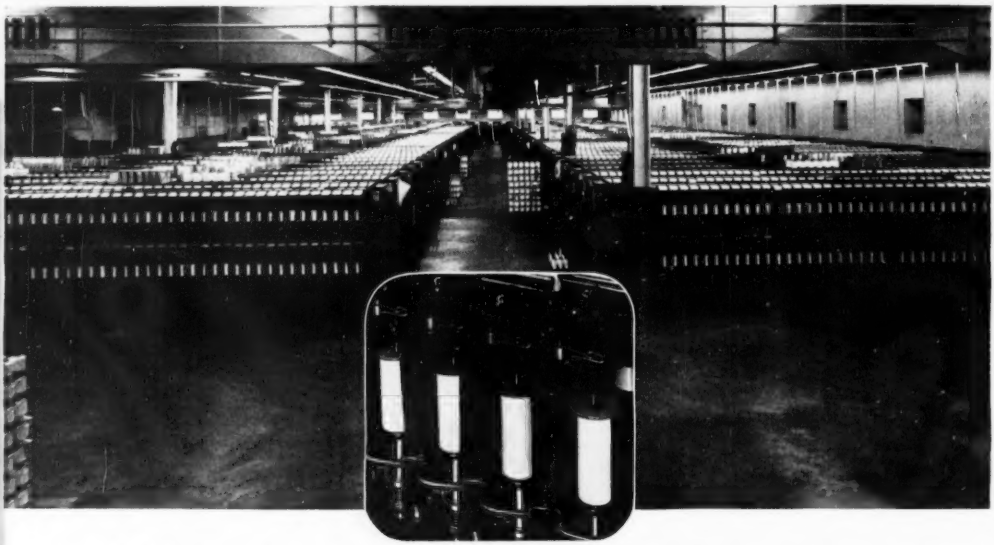
Ideal Industries, Inc.
Bessemer City, N. C.

*Patented

Marquette ROLLER BEARING SPINDLES

with FULL-FLOATING FOOTSTEP BEARING

for all textiles • COTTON • RAYON • NYLON • WOOL • WORSTED



Starting in 1946 with a single test frame of Marquette Spindles, this mill now has more than 21,000 in operation.

Not only here, but *in other mills where they have been tested,* Marquette Spindles have demonstrated their ability to produce MORE YARN at LOWER COST. They operate efficiently at high speeds with large packages, and give important savings in power consumption and maintenance.

We'll be glad to arrange for a test installation to prove that Marquette Spindles can accomplish the same results in *your* mill. Contact our home office or one of our representatives.

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The Marquette METAL PRODUCTS COMPANY

CLEVELAND 10, OHIO • SUBSIDIARY OF CURTISS-WRIGHT CORPORATION

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WINDSHIELD WIPERS FOR AIRCRAFT, TRUCKS AND BUSSES • FUEL OIL INJECTORS

Textile Industries
Vol. 116 • Mar. 1952

News in Brief

Society Proposed for Textile Engineers. A professional society for textile engineers has been proposed to cover textile and plant engineering more broadly than is presently being done, according to plans outlined by Professor Rogers B. Finch of Massachusetts Institute of Technology. The organization would present a single agency devoted to the interests of textile engineers, and serve to advance education, standards, and the recognition of achievement in the textile field.

Jurors Get Straight Pay at Avondale. Avondale Mills pays regular straight time compensation to regular employees while such employees are serving on any state or federal jury. The policy is intended to prevent hardships imposed by the low scale of pay for jury service in Alabama.

Know The Facts. Too many companies try to prepare their cases for reasoning with stabilization and other government agencies on the way to Washington—only to be confronted with detailed studies and analyses carefully prepared by union economists, according to A. M. Fisher, management consultant of New York. Management should always keep a finger on the pulse of the manpower and union trends as carefully as it does on the materials outlook and the market for its products, he said.

Hosiery Mill Studies Annual Wage Plan. Strutwear, Inc., Minneapolis, Minn., is presently studying a plan to guarantee full-fashioned hosiery operatives an annual wage based on company sales and profits. The annual wage plan is being considered as a means for putting the mill in a more favorable competitive position with southern mills.

Protests Price Controls. In a letter to Mobilization Director Charles E. Wilson, the American Cotton Manufacturers Institute has charged that since the activation of price controls the cotton textile industry "has been tobogganed by sharply declining prices, widespread unemployment, the severest drop in earnings of any American industry, and, through loss of employees to other jobs, possible impairment of its capacity to meet future emergency defense needs." Accompanying the letter was a factual statement of acute depressed conditions within the industry, which was concluded with the protest that "the continuation of price control measures is completely unnecessary."

Silicone-Impregnated Glass Cloth for Dust-Filter Bags

One of the discoveries resulting from the research of the Los Angeles air polution control program to eliminate from the atmosphere eye-and-nose irritating dust which has created a serious situation throughout the county, is a new dust-filter bag made of Silicone-impregnated glass cloth which makes it possible for heavy industry to filter gases at temperatures up to 550 F.

Dust filtration of industrial gases is said to have heretofore been limited by intense heat generated by the exhaust and the cost of elaborate installations necessary to reduce the heat within a range that could be handled by wool or cotton bag filters (200 F).

The high heat and corrosive resistance of glass cloth as a replacement for wool or cotton had previously been considered, but was not found to be practical because of the brittleness of the fabric. However, in their search for some solution to the high temperature heat control problem, Menardi and Company, engineers employed by the gray iron foundry industry on the Los Angeles project, again turned to glass cloth and undertook the problem of overcoming its undesirable characteristics.

It was through research conducted by this firm of engineers that the Maco process for impregnating glass cloth was developed. By means of this process coarse, brittle glass cloth is transformed into a smooth, silk-like, durably flexible fabric, with a high heat resistance range.

A·P·T· **Synthetic** YARN CARRIERS

PLASTICS

LAMINATES

METALS

THE RIGHT COMBINATIONS OF THE MOST SUITABLE MATERIALS

Certain materials have certain advantages. No one material has all the good points. A.P.T. "synthesizes" these materials in the place and proportion needed to give you the advantages of all 3. Our patented "Plasti-weld" method enables us to build bobbins to your exact needs, with results unmatched in efficiency and economy.

Consult A.P.T.

SOME ADVANTAGES OF USING A.P.T. CARRIERS

1. **SURFACE** of correct texture, groove and finish for free but controlled delivery of the particular yarn.
2. **STRUCTURE** by nature resilient and proof against chipping, splintering or cracking; of composition and hardness for the particular need, with light weight.
3. **MOISTURE RESISTANT** due to impregnation; of fibre construction inert to warping and distortion.
4. **UNIQUE DURABILITY**: retain their "brand new" degree of performance throughout their years of life. They do not "wear out" or diminish in efficiency from normal use.

American Paper Tube Co.

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CANADIAN REPRESENTATIVE,
HUGH WILLIAMS & CO., TORONTO, CANADA

54 YEARS OF RESPONSIBILITY FOR EFFICIENT AND ECONOMICAL CARRIER SERVICE

ASTM Committee D-13 Honors Dr. Bonnet

Dr. Frederic Bonnet, pioneer in the development and utilization of rayon, is to receive the Harold De Witt Smith Memorial Medal. The medal, a testimonial to the memory of the late Harold De Witt Smith, is awarded for outstanding accomplishment in the field of fiber science and utilization.

The Smith Memorial was endowed in 1949 by the Fabric Research Laboratories, Boston, Mass., and is given at intervals of not less than one year by Committee D-13 on Textile Materials of the American Society for Testing Materials.

Dr. Bonnet was for many years director of the standards department, American Viscose Corp., and his contributions to the textile industry are many and varied.

News in Brief

Report on Shrinkage of Knitted Woolens. How to produce knitted woolens with the least possible shrinkage is the subject of an Army Quartermaster research report now available through the Office of Technical Services, Department of Commerce. Order PB 104 048, "Effect of Construction on the Laundering Shrinkage of Knitted Woolens," 50 cents per copy.

Japanese Loom Production Figures. Some interesting figures have recently been given for the estimated yearly production of looms by various Japanese textile machinery makers. The greatest manufacturer is the Enshu Weaving Machinery Co., Ltd., with an estimated production of 8,400, followed by the Howa Machinery Co., Ltd., with a figure of 7,200. The Toyoda Automatic Weaving Machinery Works Ltd., and the Suzuki Weaving Machinery Co., Ltd., have approximately the same production at 6,000. Kiryu Cotton Manufacturing Co. manufactures 1,800 looms annually and the Okuma Industry Co., Ltd., has an output of about 780. There are other manufacturers, but their potential is considerably smaller than the six foremention firms whose combined production totals 31,180.

Nylon Mesh for Shoe Linings. A nylon mesh fabric has been announced by Burlington Mills Corp. and is designed to offer a partial answer to the problem of "hot feet" in warm weather. According to a company official, the fabric has high tensile and abrasion strength, unusual flexibility, and resistance to acid perspiration.

Eight Management Citations. The American Institute of Management has awarded certificates of management excellence for 1951 to eight textile interests. Those cited were: Pepperell Manufacturing Co., West Point Manufacturing Co., American Viscose Corp., Anderson, Clayton & Co., Cannon Mills Co., Celanese Corp. of America, Industrial Rayon Corp., and Marshall Field & Co.

Fabrics from Pineapple and Banana Fibers. The design of a special new hand loom by a U. S. aid technician and a long-range program for developing new fabrics from native sources such as pineapple and banana fibers should put weaving industry of the Philippines well on its way to a major place in the world textile market, according to ECA (now the Mutual Security Agency).

Another "Maid" Hails from Texas

A personable 20-year-old Texan from Dallas, Patricia Ann Mullarkey is the 1952 Maid of Cotton. The new Maid is currently a student at Southern Methodist University.

With Canada added to last year's tour of major cities in the United States, Europe, and South America, the 14th Maid of Cotton will have the responsibility of representing cotton in new areas.

Early in February, the new Maid launched a six-month tour, displaying the latest in cotton fashions and style trends. Her fashionable, all-purpose wardrobe, planned by some of the world's leading designers, will be shown in 30 major cities in this country.

Miss Mullarkey is the daughter of J. M. Mullarkey, southwest representative of Reeves Bros.

How to win in a draw!

THE NEW IMPROVED DAYCO COT

with fiber repellence plus!

★ **SAVES LABOR COSTS**

★ **STOPS TIME-OUTS FOR ENDS-DOWN AND LAP-UPS**

This new "spinner" even tops the sensational service that other types of Dayco Cots have given! And, if you're now using ordinary cots, this new and improved Dayco will increase the cot life you're now getting by *years!*

It's made of an entirely new compound of American Rubber, scientifically blended for fiber non-attraction. Its non-stop performance cuts non-productive costs—the cost of time and labor required to cope with ends-down, lap-ups. It's versatile, too—use it for spinning all types of fibers: cotton, wool, blends or synthetics.

THE DAYCO LONG DRAFT APRON...

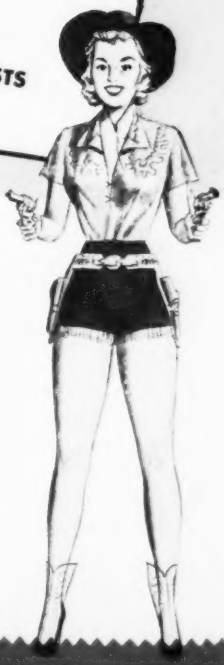
The precision apron

No false starts after a shut-down, when your frames carry Dayco Long Draft Aprons! Just turn on the power and spin, right from mill-opening on Monday. No warm-up period before you can begin production. "First apron I ever saw that you wouldn't lose a few with, when starting up!" says a South Carolina overseer.

Because it's precision made, you can change apron length by as little as 1/64" in diameter. Dayton's own exclusive method of marking for the two-apron system guarantees you a perfect fit, for any age or type of cradle. Thickness, diameter, and width never vary.

To learn more about these two fine tools for better drafting, as well as the other Dayco and Thorobred products, see your salesman; or write: *Dayton Rubber Co., Textile Division, Woodside Bldg., Greenville, S. C.*

Girls like this six-shooter are cuter, ***because Dayton's in on the draw, helping spin and weave winning costumes that make pretty cowpokes prettier.***



Dayton Rubber

TEXTILE PRODUCTS FOR BETTER SPINNING AND WEAVING

SERVING THE TEXTILE INDUSTRY SINCE 1899

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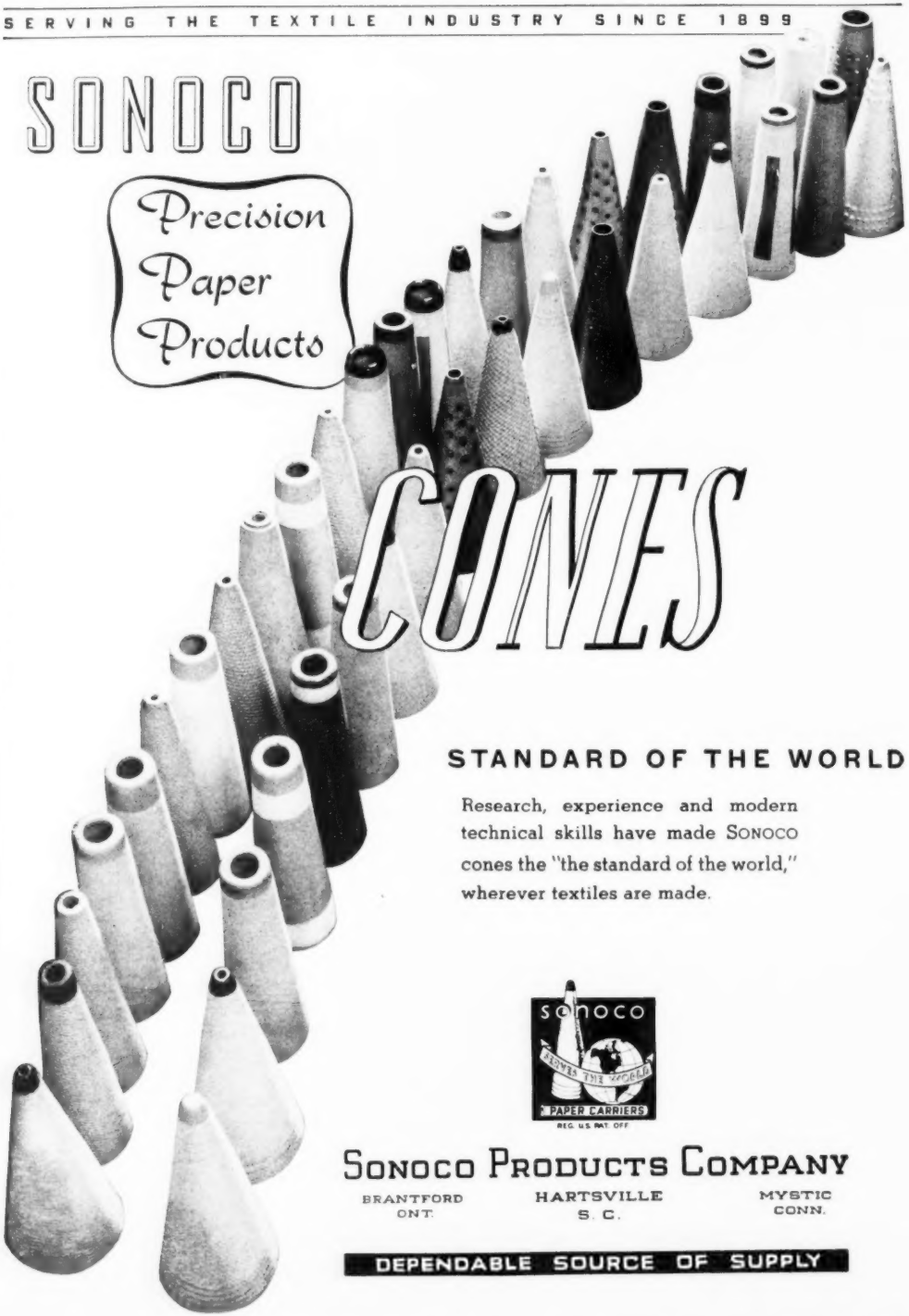

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STANDARD OF THE WORLD

Research, experience and modern technical skills have made SONOCO cones the "the standard of the world," wherever textiles are made.

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SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

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For further information use Helpful Booklet Card—TEXTILE INDUSTRIES • MARCH, 1952

Wool Research Seminar. Wool scientists are scheduled to discuss various phases of the International Wool Research Project during a seminar to be held April 7 - 9 at the Lowell Textile Institute, Lowell, Mass. The meeting will be held under the auspices of The Wool Bureau, Inc.

Underwear for Outerwear in Knitted Fabrics. A new crepe knitted fabric, heretofore used in the underwear trade, will be used for outerwear in new Austrian knit goods lines. The material is loosely knitted and will not stick to the body in hot weather.

Seamless Hosiery Patent. A patent has been granted to Thomas Leonard Hedgecock, Winston-Salem, N. C., for his invention of a new type of seamless stocking. The Hanes Hosiery Company has been named the assignor of the invention. The patent stipulates that the knitted loops of the leg decrease in size from an upper portion of the stocking down to the ankle. A heel pocket and a toe pocket are included in the foot, and the loops are gradually enlarged to a definite size in a tubular portion adjoining the heel.

Factoring Service for 1952. Theodore H. Silbert, president of the Association of Commercial Discount Companies, Inc., has predicted that 1952 will be a year of extraordinary activity for accounts receivable financing. Tightening credit will be felt, bank interest rates are now at their highest point since 1933, and there are indications of a heavy demand for loans in view of a tight credit pinch in 1952, he said.

Massachusetts Mills to Re-Open Union Contracts. Employment contracts of cotton and rayon mills in southeastern Massachusetts with members of the Textile Workers Union of America (CIO) are to be re-opened on March 15, according to a statement by the New Bedford Cotton Manufacturers' Association and the Fall River Textile Manufacturers Association. Objective of the move is to review the current unsatisfactory condition of the New England textile business and to work with union leaders to establish plans for improvement in the future.

Patent Method for Crepeing Nylon. A. L. Dorgin, of Dorgin Textile Corp., has been granted patent No. 2,175,008. The patent covers a process for crepeing nylon yarn by combining nylon and silk in a throwing operation, imparting twist, and removing the silk thread after the fabric has

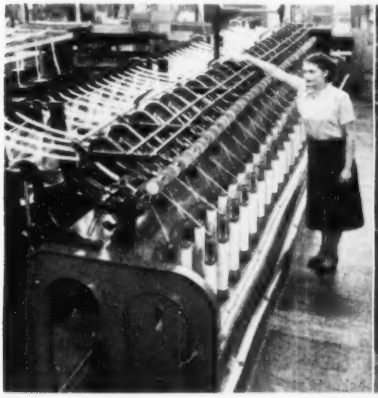
(*Continued on page 217*)

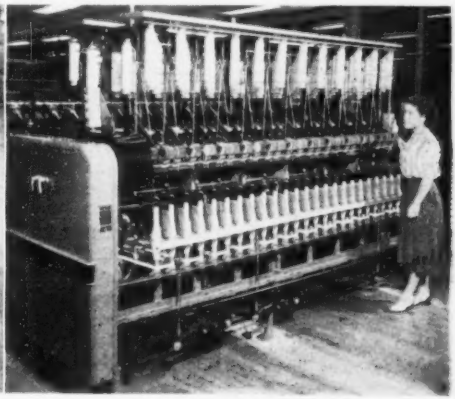
Machines for Modified Worsted System Experiments

American Viscose Corporation has recently broadened the work of its Textile Research Department's worsted division by installing a 48-spindle Saco-Lowell FS-4 roving frame and a 48-spindle Saco-Lowell SS-4 spinning frame.

The new machines will process all of the man-made fibers and all natural fibers except cotton in any length up to seven inches. Their use will be confined to the newer or modified worsted system, which involves fewer operations than the standard Bradford system.

The roving and spinning machines can be used with the converter and a new Pin Drafter, which has also been installed at Marcus Hook, to process yarn from tow with fewer intermediate steps. Although work remains to be done in developing the techniques of a suitable sequence of operations required to spin commercially acceptable yarn from tow, Avisco, which has been working with the Pacific Converter for many years, is reported to be encouraged by recent developments.





AN EXECUTIVE Views

THE NEWS IN TEXTILES

Prepared by a man who is closely identified with the textile industry.

Wheels Within Wheels

THE TEXTILE picture is getting so complicated these days that it is almost impossible for even the old-timers to keep up with what is happening. Time was when a man who could spin, knit, or weave textiles, and do it well, was considered a good textile man; but that day is gone and long forgotten, because now making yarn and cloth is purely coincidental to the operation of a textile business.

Mainly, of course, we are all working for the government. A considerable portion of every manufacturer's time must be spent in completing questionnaires, signing forms in the presence of a notary, and in otherwise trying to walk a precariously balanced rope that meanders over an abyss of government orders, regulations, and edicts. Only the wary survive.

As an example of how confused things have become, the Japanese say they cannot get decent cotton, the English say the Indians are underselling them, and the Americans view with genuine alarm the impending avalanche of cheaply made goods from Japan, from India, and from everywhere that a few looms and spinning frames may be gathered together.

Even within our own country, New England says that the South is stealing mills, stealing civilian business, and stealing government contracts. Sometimes when we listen to the New England governors talk we think that every textile manufacturer south of the Potomac river should be locked up for grand and petty larceny. Things have certainly come to a pretty pass.

But the end is not yet. Some of the New England mills are operating under what has been called a "Textron type contract" with regard to wages, fringe benefits, etc. Among other things, this type of contract provides for certain periodic increases in wages. There are other New England mills, of course, which do not operate under this particular type of contract, and so the Textron type mills have been quoted as saying that they now find themselves at a great disadvantage, because certain other New England mills do not have this periodic upgrading of wage rates.

As we view this unhappy kettle of fish, we wonder if perhaps the whole thing has not been caused by artificial wage rates and other employee benefits, which might better be determined by the law of supply and demand. In the sacred halls of the Washington bureaus this thought is heresy indeed. In the years to come, however, it may be found that it contains a certain measure of basic truth.

Minimum Rates

The government has set certain minimum wage rates by law and whether you are making money or losing money, or whether you are merely breaking even, you cannot go below these basic rates. This, in itself, puts an economic iron band around our economy which may turn out to be too inflexible. If you cannot pay a minimum rate of 87¢ an hour and keep your mill in business, is it better to close it down and thus create unemployment, or is it better to drop below the 87¢ and continue to provide at least some measure of livelihood for your employees?

The answer, of course, is clear in this year 1952, because if you are operating on a government contract in textiles other than wool you cannot legally pay less than 87¢. If you are operating on a government contract on wool, you cannot, at this writing, pay less than $1.05 an hour, and by the time you read this, it appears likely that the $1.05 minimum will have been increased substantially.

There are also certain other minimum rates which must be observed in mills which have been organized by unions. At times, these rates are most inflexible, and a company faced with a forced work stoppage may sell its birthright for a mess of pottage, even though the higher rates which it agrees to pay may foretell its doom in the years to come.

Yes, we are in a period of great confusion. Where the road will lead nobody knows and few are foolhardy enough to make long range predictions. It is not difficult to see, however, that the manufacturer whose mill is most likely to survive is the one who is well informed on numerous matters which once had very little to do with textile manufacturing.

He must keep up with the trend of foreign trade, with tariff matters, with price controls, production controls, and allocations of materials. He must follow the rulings and interpretations of dozens of government bureaus, and he must be prepared to answer

complaints of directors and stockholders when dividends are reduced to a slow trickle. Also, if he is to be good at human relations, the experts say that he should remember the names of his employees, and he should also remember to inquire about the sick baby of the loom fixer in No. 3 weave room.

This is, indeed, a difficult time in which to live and operate a textile mill. The man who can meet all of the requirements of managerial responsibility is nearer to a wizard than to a manufacturer.

Renegotiation

As an example of how carefully all of us must watch our step these days, we would like to point out by way of a reminder that if you are operating on government contracts, which are renegotiable, then you are subject to the Renegotiation Act of 1951. Under the terms of this Act, certain reports are required and these are to be submitted on forms supplied by the Renegotiation Board. Until just recently, the Board was not administratively set up to handle these reports, but now notice has been given that all corporations subject to the Act should file these data.

Briefly stated, this information is to be submitted on the first day of the fourth month following the end of the corporation's fiscal year. It would appear that thus some companies may be in arrears even before they could receive the blanks, but this is not true, because the Board has taken cognizance of this situation. If submitted by March 1, then reports which would otherwise have been due last year will come within the scope of the regulation. In short, if your fiscal year ended any time before December 31, 1951, then you still were given until March 1, 1952, to file the reports. If your fiscal year ends after December 31, 1951, then you have until the first day of the fourth month following the end of the fiscal year.

All of this sounds a little confusing but, if you think this is bad, wait until you see the form.

Japan

Dr. Claudius T. Murchison, economist for the American Cotton Manufacturers Institute, Inc., has recently prepared a scholarly and thought-provoking study concerning the Japanese question and how it relates to the textile industry. Dr. Murchison explains the historical background of the problem, tells of some of the recent "Missions" which have visited that country from America and

(*Continued on page 209*)

Mar. 7—Philadelphia Section, AATCC, Penn-Sheraton Hotel, Philadelphia, Pa.

Mar. 13-14—Municipal and Industrial Waste Conference, N. C. State College, Raleigh, N. C.

Mar. 21—Hudson-Mohawk Section, AATCC, Jack's Restaurant, Albany, N. Y.

Mar. 22-April 6—The second International Trade Fair, Navy Pier, Chicago, Ill.

Mar. 29—South Carolina Division, STA, Spartanburg, S. C.

April 1-4—21st National Packaging Exposition, Auditorium, Atlantic City, N. J.

April 3-4—Spring meeting, Textile Quality Control Association, A. French Textile School, Georgia Institute of Technology, Atlanta, Ga.

April 3-5—Annual convention, Alabama Cotton Manufacturers Association, Hotel Buena Vista, Biloxi, Miss.

April 7-9—Seminar on Results of International Wool Research Project, auspices The Wool Bureau, Inc., Lowell Textile Institute, Lowell, Mass.

April 16-17—Spring meeting, Fiber Society, Clemson House, Clemson, S. C.

April 16-18—Annual convention, Cotton Manufacturers Association of Georgia, Boca Raton Hotel and Club, Boca Raton, Fla.

April 18—Spring meeting, Textile Processing Sub-Committee, **American Society for Quality Control,** Georgia Institute of Technology, Atlanta, Ga.

April 18—New York Section, AATCC, Swiss Chalet, Rochelle Park, N. J.

April 21-25—Knitting & Allied Crafts Exposition, Grand Central Palace, New York City.

April 22-23—Annual convention, National Knitted Outerwear Association, Waldorf-Astoria, New York City.

April 24—Annual meeting, Underwear Institute, New York City.

April 25-26—Annual meeting, Canadian Association of Textile Colourists and Chemists, Mount Royal Hotel, Montreal, Quebec, Canada.

May 1-3—49th annual convention, Phi Psi Textile Fraternity, Clemson House, Clemson, S. C.

May 2—Spring meeting, Georgia Section, American Society for Quality Control, Georgia Institute of Technology, Atlanta, Ga.

May 3—Piedmont Division, STA, Belmont, N. C.

May 6-9—International Lighting Exposition and Conference, Cleveland Auditorium, Cleveland, Ohio.

May 5-16—British Industries Fair, Earls Court and Olympia, London; and Castle Bromwich, Birmingham, England.

May 12-17—National Cotton Week, sponsored by **National Cotton Council.**

May 15-17—Third annual convention, American Cotton Manufacturers Institute, Inc., Haddon Hall Hotel, Atlantic City, N. J.

May 15-17—Annual outing, Carolina Yarn Association, Carolina Hotel, Pinehurst, N. C.

May 22-24—Annual meeting, American Society for Quality Control, Syracuse N. Y.

June 2-7—Annual conference, Textile Institute, Assembly Hall, Edenburgh, Scotland.

June 12-14—Annual meeting, Southern Textile Association, Ocean Forest Hotel, Myrtle Beach, S. C.

June 23-27—Annual meeting, American Society for Testing Materials, Hotels Statler and New Yorker, New York City.

Sept. 8-10—Third National Standardization Conference, sponsored by the American Standards Association, Museum of Science and Industry, Chicago, Ill. To be held in conjunction with Centennial of Engineering.

Sept. 9-13—7th National Chemical Society Exhibit, the Coliseum, Chicago, Ill.

Sept. 10-11—Fall meeting, The Fiber Society, Inc., Princeton, N. J.

Sept. 18-20—Third Canadian Textile Seminar, Queens University, Kingston, Ontario, Canada.

Oct. 6-11—Seventeenth Southern Textile Exposition, Textile Hall, Greenville, S. C.

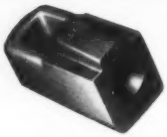
Nov. 6-8—31st annual convention of the American Association of Textile Chemists and Colorists: also the textile dyeing and finishing exposition. Hotel Statler, Boston, Mass.

Nov. 19—34th annual meeting, American Standards Association, Waldorf-Astoria, New York, N. Y.

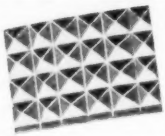
Rubber Loom Necessities

Manufactured by JACOBS

Years of mill-wise experience is reflected in this growing line of rubber loom equipment. Each product has been tried and proven *in use!*



"X" MODEL SUPER PICKER for Draper Looms



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Pyramid Design — enlarged the best gripping surface yet devised — white

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TEMPLE ROLLS made in any desired cut or thread

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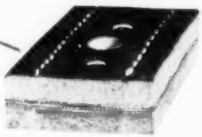
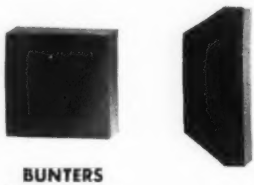


RUBBERIZED FABRIC STRAPPING with leather reinforcements



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THE BULLARD CLARK COMPANY

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NEW Equipment AND MATERIALS

Inertialess Weighing System for Existing Scott Tensile Strength Testers

An electrical weighing system for application to existing Scott testers of the pendulum type has been developed.

This Inertialess Weighing System replaces the conventional pendulum type head and recorder, converting the tester from constant-speed-of-pull operation to constant-rate-of-extension.

Resistance of the specimen, or load, is absorbed by the deflection of an elastic spool, which is converted to a voltage and measured by a potentiometer with recording chart. On the chart, extension of the specimen is shown vertically and load horizontally. Inasmuch as chart speed and clamp speed are both time functions, the chart becomes a stress-strain diagram directly, with either variable (load or extension) magnified or condensed as desired.

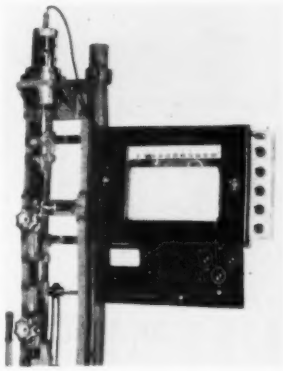
The advantages claimed for the system are: *First*, as the name implies, inertia is practically eliminated from the weighing mechanism. The improved sensitivity reflects the behavior of the specimen in more minute detail, particularly when minute changes are magnified as described above. *Second*, it is now possible to apply a constant rate of extension (the elastic spool of the weighing head elongates only .0015" maximum, negligible consideration). *Third*, the flexibility of drive and recorder rates and wide range of chart speeds available, permits new studies of progressive test stages.

Application of the system to existing Scott Testers is said to be simple. It may be installed on Models J, L, Q and X-3. The replacement, which can be made by non-mechanical personnel, requires about a half hour and consists of removing the pendulum head by loosening four bolts and installing the new elastic spool head with the same four bolts. With equal ease, the potentiometer recorder replaces the old recorder. Current is applied by plugging into any 110-120 volt outlet.

Conversions are available from 2 to 10 lb to 400 to 2,000 lb. The change from one capacity to another is readily accomplished by changing the elastic member rather than the entire head. This again can be accomplished by non-mechanical personnel, without special tools.

Scott Testers, Inc., 160 Blackstone St., Providence, R. I.

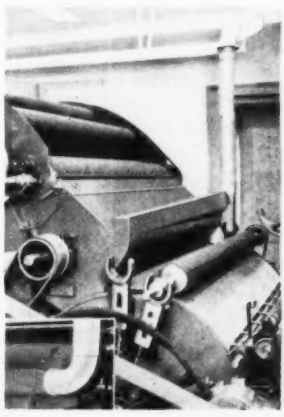
For additional data, request item C-114, using business reply card on page 244.



PENDULUM type tester equipped with inertialess weighing system (Scott).

Woolen Card Accessories Announced by Whitin

Substantial reduction of waste in the card room, large savings in maintenance, and better working conditions are benefits to be derived from the installation of Uxbridge Type Exhaust and Fancy Covers and Filling-In Side Plates recently developed for Whitin woolen cards.



The Uxbridge type exhaust and fancy cover consists of a sheet metal cover for the fancy roll. The cover is so designed that the air flow removes all of the fibers thrown off by the fancy roll, conducts them through an outlet on the cover to a flexible pipe which leads to an overhead duct. This pipe, which has a gradually increasing diameter, in turn leads to the exhaust fan, and to it are joined the ducts leading from the other fancy covers that are attached to the card. The whole combination of fancy covers, flexible pipes, ducts

UXBRIDGE type exhaust and fancy cover by Whitin. Inset at lower left is close-up made on opposite side of card showing cover and flexible pipe leading to overhead duct.

WE HOPE YOU'LL ASK THESE QUESTIONS

LESS VIBRATION ? Yes, sir! Jenkins spinning cylinders are dynamically balanced to remove all traces of vibration. They run smoothly at all speeds.

LOWER COST ? Naturally! Smooth cylinder performance cuts operating costs by affording longer life, less wear throughout the frame.

BETTER YARN ? Surely! Yarn flows freely and smoothly at all speeds, assuring the uniform quality that means *surer profits.*

GUARANTEED QUALITY ? Of course! 39 years of engineered thinking and conscientious workmanship backs up every Jenkins product you buy!

JENKINS
ENGINEERED PRODUCTS

JENKINS METAL SHOPS
GASTONIA, NORTH CAROLINA

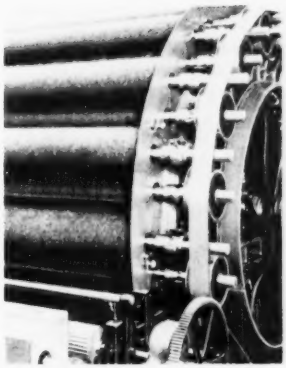
to the exhaust fan, and collecting element, constitutes an integrated unit.

Waste removed by the unit can be handled in one of several ways—returned directly to bins or feed chutes leading to automatic feeder, or returned to a filter bag unit from which the stock can be easily removed.

The filling-in side pieces for the workers and strippers are accurately fabricated metallic sheets which fit in the sides of the cards and practically eliminate the stock accumulation around the ends of the workers and strippers. In addition to reducing the production, maintenance, and cleaning costs, the side pieces will improve the safety factor of the card, the manufacturer claims.

Whitin Machine Works, Whitinsville, Mass.

For additional data, request item C-109, using business reply card on page 244.



FILLING-IN side pieces practically eliminate the stock accumulation around the ends of workers and strippers, according to Whitin. Production, maintenance, and cleaning costs reduced; also safety factor improved.

Dayton Rubber Marketing Long-Life Check Strap

Now on the market is a check strap, known as the Thoro-Check, which is designed to provide properly cushioned snubbing action while giving maximum protection to shuttle, binder, picker, and picker stick. According to the manufacturer, one year's tests have shown that the life of the new strap is from 25% to 50% greater than others.

Other advantages cited for the Thoro-Check are: greater picker and shuttle life, protection of binder and picker stick, rubberized fabric construction without elongation, smoother checking providing carefree operation, unaffected by temperature and humidity, individual or multiple replacement, and precision construction. Available for immediate delivery in sizes and types for all looms.

Dayton Rubber Co., Dayton 1, Ohio.

For additional data, request item C-105, using business reply card on page 244.

Hosiery Finishing System Promises Better Dulling

A recently developed system for finishing women's nylon hosiery combines a resin finish, a dulling agent, an exhausting agent, and a wax lubricant—all applied in one bath after the dye is dropped.

Excellent dulling results achieved with the new Filaseal system give promise of new life for hosiery sales, according to the announcement. By varying the components of this new system, the finish can be modified to be either soft or hard, with or without scroop, and firm or elastic, depending upon the requirements of the individual hosiery mill.

Laboratory tests are said to have shown that samples finished with the new Filaseal system have better dulling, increased snag and pull resistance, and have retained their shape throughout handling operations.

Amalgamated Chemical Corporation, Ontario and Rorer Streets, Philadelphia 34, Pa.

For additional data, request item C-109, using business reply card on page 244.

NEW Equipment AND MATERIALS

New Finishing Materials

Setole H-59 is, according to the manufacturer, a special conversion of a root starch complex for building up the "hand" of water repellent fabrics. The fabric, after jig dyeing, is batched, then immersed in the necessary concentration of Setole H-59, squeezed and dried before passing through the required concentration of water repellent.

Eumercin HRC, a substituted cyclic penetrant, may be used effectively in caustic soda solutions of approximately 90° Tw, it is claimed. Suggested application, plisse work.

Warwick Chemical Co., Division of Sun Chemical Corp., 10-10 44th Ave., Long Island City, N. Y.

For additional data, request item C-501, using business reply card on page 244. Please specify product.

Improved Dyehouse Shoe

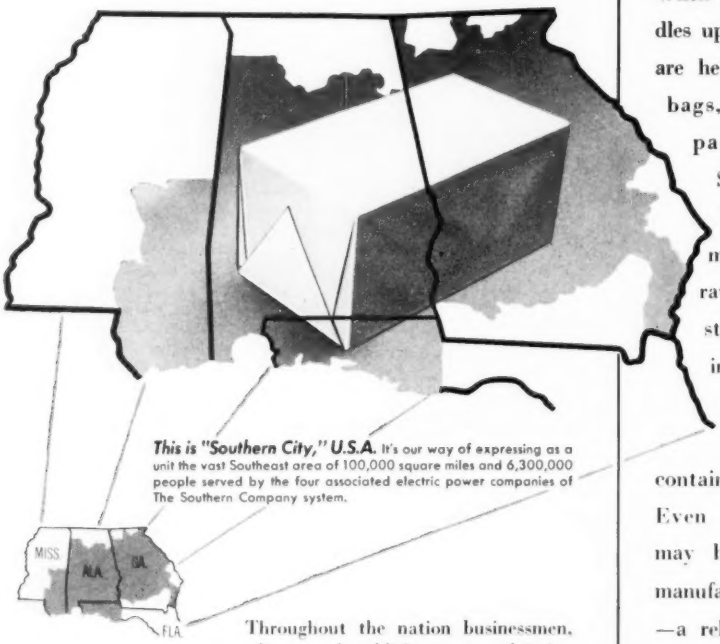
A new wooden sole shoe protects textile operatives' feet from water, chemicals, and acids prevalent in dyehouse and other wet process departments.

The shoes have 1½ inch thick close-grain sanded maple soles. For comfort and ease in walking the sole is shaped to fit the foot and covered with a soft cushion inner lining. Copper wire securely fastens the sole

(*Continued on page 187*)

Stahmer dyehouse shoe.

SOUTHERN CITY, U.S.A. Wraps The Nation's Packages



This is "Southern City," U.S.A. It's our way of expressing as a unit the vast Southeast area of 100,000 square miles and 6,300,000 people served by the four associated electric power companies of The Southern Company system.

When your local merchant bundles up your purchases, chances are he's using wrapping paper, bags, paper-board boxes or packages produced in Southern City U. S. A.

Vast pine forests, covering millions of acres, provide raw materials for this constantly expanding southern industry that today produces a major part of the nation's kraft and containerboard paper.

Even your daily newspaper may be printed on newsprint manufactured from southern pine —a relatively new development that is turning more and more Southern City forest land into green gold every day.

Throughout the nation businessmen, editors and publishers are acclaiming the tremendous industrial and agricultural advances made in Southern City during the past decade. Over 100,000 stockholders of The Southern Company, located in every state in the Union, are vitally interested because this progress assures a constant and growing demand for electric power.

The South and The Southern Company are both growing . . . together!

The Southern Company
Atlanta, Georgia

Write the industrial development departments of any of the four operating companies for further information.

Operating companies associated with The Southern Company

ALABAMA POWER COMPANY Birmingham, Alabama · **GEORGIA POWER COMPANY** Atlanta, Georgia · **GULF POWER COMPANY** Pensacola, Florida · **MISSISSIPPI POWER COMPANY** Gulfport, Mississippi

Shorts and Remnants

Feet, Large and Small

To Calco Chemical we are grateful for this choice bit of information which should spur our mills on to greater productivity: A survey of female foot sizes shows that American women have the biggest feet in the world. New England women have the smallest, followed by those of the West and Midwest—but women of the South have the largest feet of all.

The shoe business takes a lot of textiles (interlinings) and the bigger the foot, the bigger the shoe, and the more textile products consumed. Those southern ladies are only doing their share in their own way to keep the mills running.

Want No Story

" . . . . do not wish to have any matter published or any pictures printed whatsoever in connection with your [representative] visit to our plant . . . sorry to take this stand but that is our policy on this kind of matter. . . . "

NAME WITHHELD

► Though TI abides by the management's policy of no publication of a technical story without permission, it does not always agree with such policy. TI does recognize that some type of information is classified and that other data if published could be damaging, its editors often suggesting a modification of a story which might make entertaining reading but publication of which could prove harmful to a unit or to the industry; there is a time for everything. TI holds no brief for the mill which seeks information from other plants but parts with none of its own.

Pleasing Them All

Our proof reader suggested the following—he, in turn, being indebted to Tom Raker of the "Nashville Herald."

"In case you find a mistake in this paper please consider that it was put there for somebody's benefit. We try to get something in the paper for everybody and some of our readers are always looking for mistakes."

Value of "Foreign" Magazines

" . . . . subscriber of TI for the last four years and have enjoyed same some years previous when magazine was 'Cotton' . . . . watched with interest the progress through these years and must admit that it has been doing an excellent job on a higher standard every year . . . you can never imagine the value of help the foreign magazines and especially your publication gives to us in India. . . . "

PHIROZE A. KAPADIA
19, Opposite the Tank
Thana (Bombay Sub.)
India. . . . "

Activity Vector Analysis

" . . . . note in the March 1951 issue . . . article entitled 'Activity Vector Analysis' . . . . like to have dozen reprints. . . . "

CHESTER W. ARNOLD
Personnel Director
Cone Mills Corp.
Greensboro, N. C.

► " . . . . have received so many requests for reprints of the article 'Activity Vector Analysis' which appeared in the March 1951 issue that our supply is now exhausted. We are accordingly writing for permission to reprint this article for our use. . . "

WILLIAM GALLANT
Walter V. Clarke Associates
Barrington, R. I.

In Powder Form

"With reference to article in your December issue 'pH of Humidifier Water Corrected' by Contributor No. 2273, we would appreciate having the name of the mixture which flows into the humidifier reservoir. . . "

JOHN D. HARRIS
Plant Manager
Manchester Plant
Callaway Mills Co.
Manchester, Ga.

► Oakite No. 22, in a powder form.

Industrial Engineering

"A need . . . . for information or references on time studies . . . . work loads and methods of assigning number of machines or spindles per operator. . . . "

ERNEST LISZEWSKI
California Cotton Mills
Oakland, Calif.

► Labor and Management Benefit by Industrial Engineering Principles (May 1947); Industrial Engineering for the Small Plant (May 1949); Practical Time Studies to Assist Overseers (Jan. 1951); Unit Work Standards and Job Assignment Practices (Jan. 1952), etc. These are some of the detailed feature articles. Others to come soon.

Now We Can Retire

Secretary of Commerce Sawyer has announced the creation of a national clearing house for suggestions to improve industrial productivity—for the pooling and interchange of ideas.

Somehow we thought that TI and other business publications had been doing just that—TI since 1898.

There's nothing we welcome more than good, clean competition from a government bureau. And besides, we have been trying to figure a good excuse for early retirement.

Short Lab Course

" . . . . interested in a short textile laboratory course, as well as practical quality control . . . . information as to where subjects are given. . . . "

GERARDO POZAS SALAS
Hilados Del Norte
Monterrey, Mexico

► Textile colleges; American Cotton Manufacturers Institute, Clemson, S. C. Mary Jo Wesson's "Physical Textile Testing" (TI Mar. 1951) would be valuable aid.

Protracting Our Obit

Along comes "Industrial Marketing" with an analysis of obituaries of people in the advertising business. Those closely connected with advertising passed away at age 57. Editors showed a somewhat longer life expectancy, concluding their existence at age 65.

We're glad to discover after all of these years the advantage of being on the paste pot end. However, since editors are prone to speak of themselves and write in the plural "we," perhaps that 65 has Father Time fooled; could be it should be divided by two.

Smooth Operation

Watch a Textile Spring-Beard Needle in operation. See how quickly and easily yarn slides over its smooth, mirror-like finish. A special steel formula and Textile's quality controls—automatic and electronic—assure this same smooth operation from every Textile Needle.

Smoothness is just one of the advantages you get in Textile Spring-Beard Needles. You get better performance in more even stitches, top quality stocking fabrics.

TEXTILE MACHINE WORKS, READING, PENNA.

Textile

SPRING-BEARD NEEDLES

For Full-Fashioned Knitting

For Tricot Knitting

EXCLUSIVE

Staff Prepared

Textile Industries *reports on*

Highlights of Current Successful Practice

NO ONE CAN SAY exactly what the textile industry as a whole is doing in the way of employee training. There are about as many types of training programs—or lack of them—as there are mills. It would not be hard to find an example to demonstrate that the textile industry is doing an outstandingly excellent training job, ranking high when compared with industry in general; and it would be equally as easy to pick examples to show that the industry is abysmally backward in training employees.

The purpose of this Special Section is not to grade the industry on the job it is now doing, but to describe methods and systems which have proved useful. This Special Section will also suggest means by which proved methods may be applied in mills not now satisfied that they already have the best training program possible.

To put these suggestions into practice advantageously will require the aid of a personnel or training director familiar with the tools of his trade.

FOR EXTRA COPIES: A limited over-run of this article has been made; so long as the supply lasts, copies will be sent to interested parties upon request.

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Induction Training

man meets mill

INDUCTION TRAINING deals with the introduction of the new employee to the mill, to its management, and to the employee's job. It is also customary to include as a part of induction training the selection of the right employee for the job.

Perhaps it is stretching the point to include selection of employees as a part of induction training, but the person selected must be trainable, and the personnel manager who selects the wrong person for the job adds an unnecessary cost burden on the training department.

Job Descriptions

Before an applicant can be properly fitted to a job, the requirements of the job must be known. These requirements are known as "Job Descriptions," and many mills have set up specifications showing in as exact a manner as possible, just what is required of each employee on every job in the mill. Though these standards may be expressed in many ways, they boil down to:

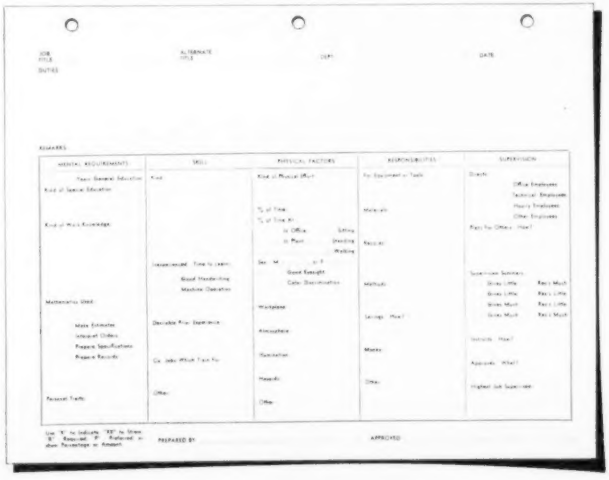
(1) Physical requirements, (2) mental requirements, and (3) physical and mental coordination required.

A sample of such a job description sheet is shown. Job analysis procedures have been worked out by the American Management Association, and State Employment Services will also offer assistance. More detailed aid in setting job descriptions can be had by employing a consultant.

Employee Testing

Once job descriptions have been established, it is up to the employment manager to fit the applicant to the job. The two methods used are: (1) the interview, and (2) testing. It takes both of these tools, and any mill employment department using only one is doing only part of the job.

A personnel man who knows interviewing techniques can learn a great deal about an applicant merely by talking with him, asking him questions, and letting the applicant talk about himself. During the interview the personnel man must follow a plan, and he must, of course, know the job



JOB REQUIREMENTS. Can you fit an applicant to a job unless you know exactly what he will be required to do on that job? Here is a job description sheet used by one organization for recording job specifications.

descriptions for the opening.

No written guide can tell how an interview should be conducted. It takes a trained man, and fortunately, many mills are now using trained personnel men to do hiring.

On the other hand, many mills are not giving these trained men the tools they need to do their jobs properly. There is no man who can be sure, from an interview, alone, whether the applicant has the required eyesight, physical and mental coordination, or mechanical aptitude. These, and similar qualities, can only be determined by tests.

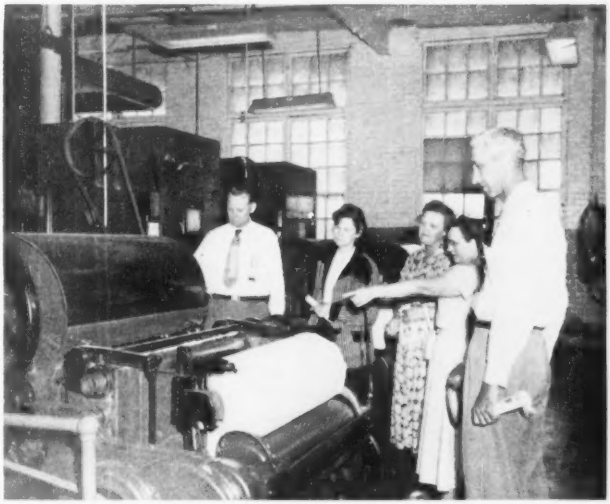
Applicants can be given oral, written, vision, IQ, job sample, and assembly and disassembly tests, not all of which are needed for determining an applicant's fitness for every job, but the job description sheet will show which tests are required and what is considered a passing grade for the job. Most mill personnel directors now know how to give and interpret these tests, but not all mills are furnishing the directors with the needed equipment.

Vision Tests

Vision tests are fairly well known in textile mills. Even some of the very small mills are using vision test equipment on new employees. Hosiery mills have found them almost a necessity. A number of articles and considerable data have been published to show the value of these tests, and there can be little doubt that they pay for themselves. The mill without some sort of vision testing program is missing a sure bet.

Some mills pay the cost of correcting the vision of employees. Others tell employees or applicants that they need to see an oculist. Each method has advantages, and mill management should consider each of these extremes and possibly some middle-ground alternative. But there should be vision tests for both old and new employees.

It should be pointed out that job standards, interviewing, and testing apply not only to new employees, but to employees being promoted from their current jobs. Promoting a man from a job he can do to one he cannot is even more costly than making the wrong selection in the first place.



A TRIP THROUGH THE MILL should follow the new employee's orientation conference. It is essential that he recognize the importance of the department in which he is going to work—especially the part that he will play in the production of the finished product.

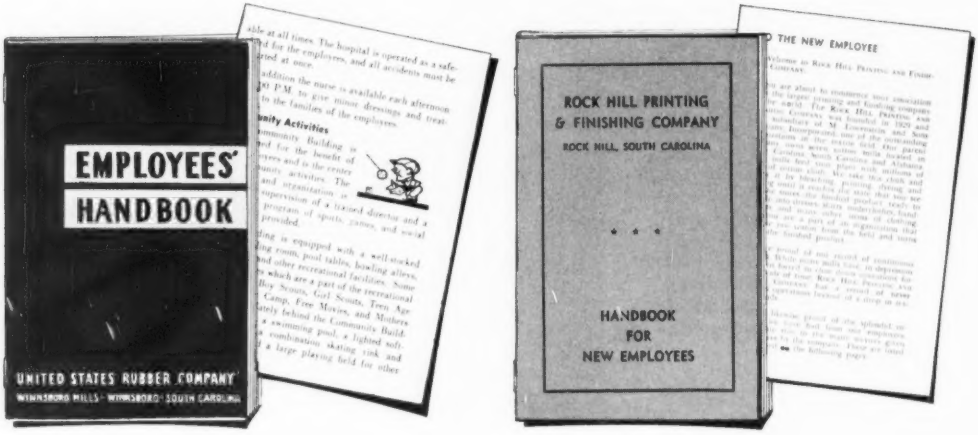
The New Employee

On the first day a new employee reports to work he forms an opinion of his company. Although this opinion may change for better or worse after a few days, weeks, or months, it is best that his first impression be a good one. It is not unusual for mills to devote the first day, or at least a few hours of the first day, to introducing the new employee to his company, his environment, and his supervisor.* A typical day at a mill stressing an induction program might pass like this:

A Typical First Day. New employees are assembled in the office of the personnel or employment director and led to the conference room. They are given a brief welcome by the personnel director or an executive of the company. Then the meeting is turned over to the training director or a member of the personnel department who spends the next hour or so in giving the history of the company, the story of its industrial and public relations program, and a brief description of the manufacturing process.

This is also a good time to show any films or slides which deal with the industry or with some phase of company history or policy. Book-

*The supervisor and his meeting with the new employee are very important factors in the induction. The personnel department has an induction job to do, but the supervisor should not be bypassed. In the long run a new employee's immediate supervisor, in his opinion, becomes the spokesman for the company, and in many instances to the employee his supervisor *is* "the company." However, because sequence of events in induction programs differ and because the new employee's immediate supervisor may not be known the first day, each plant will have to decide when the employee and supervisor are brought together.



lets explaining the company and company policy and rules should be distributed.

Company Policy Publications. These booklets are important, and while there are some excellent ones published by mills, too little thought has been given to them in the past. Remember, they are about the only reference the employee has to guide him concerning company benefits and rules in the months ahead. They should be accurate and complete, but simply written and illustrated. It is usually wise to hire an outsider to write and print the booklets

When the new employee leaves the meeting, he should feel that he knows his company. He should have been shown a financial statement so that he may know where the company's money comes from and how it is distributed. He should certainly know what benefits the company offers its employees and what it does for the community.

Selling Private Enterprise. This induction conference is also an excellent opportunity to get in a few words on the advantages of the private enterprise system, the progress made through active competition, and the capitalistic system. This, however, must be done with intelligence and tact. Practically every employee is already sold on the American way of life, and if he is not, no ten minute lecture is going to change him. Many such lectures are insulting in that they imply that a goodly number

Induction Training Check List

Selection of Personnel

Yes	No	
( )	( )	Do you use the interview method?
( )	( )	Do you use testing methods?
( )	( )	Do you have clear, established job descriptions for each job in the mill?
( )	( )	Do you use the same methods of job selection in promoting an old employee as in hiring a new one?

Induction Training

( )	( )	Does the new employee have an opportunity to meet a representative of top management?
( )	( )	Do new employees meet in a conference to learn about company history, policy, rules, and benefits?
( )	( )	Are manufacturing processes explained, and does the new employee get a full trip through the plant?
( )	( )	Is the new employee shown by actual example the way he is to be served food or the arrangements made for employee feeding?
( )	( )	Does the new employee have ample opportunity to ask questions and get answers?
( )	( )	Are pertinent financial data clearly presented?
( )	( )	Does he understand his wage rate, deductions, and overtime pay?
( )	( )	Is he personally introduced to his supervisor and job instructor?
( )	( )	Is he given a book of rules, history, and policy?
( )	( )	Is he paid for time spent in induction training?

of the new employees just left their communist cell to report to work, or imply that management has a monopoly on Americanism. This type of talk does harm.

It is far better to sell private enterprise by giving a simple example based on the mill's own business history. Show how much it has meant to the community, how real wages have increased, and how the product of the mill improves our daily life.

Employees do not need to be sold on our economic system—they need to be sold on the fact that their company is worthy of being a part of it.

► *The Plant Trip*

After the meeting in the conference room, there should be a plant trip. Any questions asked along the way should be fully answered, and the guide should make sure each new employee recognizes the importance of the department in which he is going to work. In order to do this, it is necessary that the group be fairly small.

Four or five new employees to the group, in making the plant tour, is about the right number. Then the person conducting the trip is able to make each employee feel that the trip is especially for him by answering the questions intelligently.

It can be mystifying to a new employee to see full-fashioned hosiery blanks that look nothing like stockings coming from a machine; or cloth disappearing into a J-box, the bottom of which also disappears below the floor level; or cotton and wool which he has been told goes into a quality product being tossed around on dirty platforms and later agitated in a manner which must look destructive to him.

An intelligent answer during the first plant visit will create interest in the product.

Operator Training

man meets machine

OPERATOR TRAINING has three basic aims: (1) To help the employee learn rapidly; (2) to teach him to produce quality goods; (3) to help him meet the job requirements or standards. Fulfilling these requirements for operator training is not easy, and while this type of training is the type emphasized, or at least recognized, in most mills, there is need for improved methods.

The operator training program in most mills consists of taking the new employee to his job and turning him over to an old, experienced employee for training. This may be a good or a bad method—de-

► *That First Lunch*

Seemingly an unimportant detail, the first meal in the plant can have a great deal to do with the success of an induction program. The new employee should be shown exactly how employee feeding is handled. Nothing is so confusing as an unfamiliar lunch room or cafeteria. If the mill operates without a lunch period and employees are expected to eat at their machines, they should be told how and where they can purchase sandwiches and drinks as well as where to put trash and empty bottles.

After lunch, each new employee is introduced to his supervisor. It is the supervisor's job to explain department rules and review company rules by going over the induction book with the new man. The system used in setting standards, the calculation of wages, and the nature of wage deductions should be explained thoroughly. It is important that the supervisor handle this part of induction training with understanding and tact.

It is now time for Operator Training, and the new employee is introduced to his instructor.

► *Pointers on Induction*

There are several points to watch in this Induction Training. Booklets giving company history, policy, and rules have been mentioned, but their importance cannot be overemphasized.

The personality of the conference leader is important. He must seem friendly and personally interested in each new employee. He must not be hurried, and there must be time for him to answer all questions—especially the silly ones.

In this introductory program, be free with company financial figures. Most company financial statements are public or near-public information, and it is embarrassing to both old and new employees to have the public know as much or more than they do about the company's finances. In this connection, financial data or news about new plants or plant expansions should be given to the employees before it is released to newspapers.

Beyond all, pay the new employee for the hours he spends in induction training. Whether it takes an hour or a week, he should be paid at his regular rate.

JOB BREAK-DOWN SHEET FOR TRAINING MAN ON NEW JOB

Part Fill Bobbin, Piece Up Wires Operation To Piece Ends

IMPORTANT STEPS IN THE OPERATION Step: A logical segment of the operation when something happens to ADVANCE the work.	KEY POINTS Key point: Anything in a step that might make or break the job; injure the worker; make the work easier to do, i.e., "knack", "trick", special timing, bit of special information
1. Pull yarn off full bobbin.	12"-18"; bobbin on piece up wire.
2. Wrap end around bobbin.	1. Slight twist.
3. Stop bobbin.	1. Grab quickly.
4. Thread guide.	1. End through slot.
5. Thread traveler.	1. Yarn to bobbin on left of traveler.
6. Piece end.	1. Break yarn; ½" stub; end to web, twist left.

TO INSURE UNIFORM TRAINING of operatives for a particular job, some mills provide job break-down sheets like this for the instructors.

pending on the old employee's ability to instruct and his interest in teaching.

It requires good instruction for a new employee to learn rapidly how to do a good job at the required speed, and comparatively few spinners, knitters, dyers, loopers, winders, doffers, or weavers—or for that matter, vice-presidents or superintendents—are capable of giving instruction without themselves having had some training in instruction methods.

It is a costly experiment to let just any operator, regardless of how well he knows his job, teach a new employee.

Instructor Training

The first step in operator training is the training of instructors. The mill management should decide which departments have enough employee turnover to warrant the training of operators as instructors. There are departments in every type of mill—cotton, wool, synthetic, finishing, dyeing, or knitting—where the turnover is high enough to profitably train instructors for operators. The larger mills will find there are many departments where operator-instructors will be needed. Smaller mills will find only one or two in which there is enough labor turnover.

It has been estimated that a well-trained instructor can save enough time in training two to four men to make up the time required to train him in instruction methods. If this estimate is correct, the cost of teaching an old employee to be an instructor will pay for itself in about the time required for turnover and training of three new employees on a job.

The personnel or training director, consulting with the overseer, usually selects the employees who seem to be suited to teaching. To be selected, they must want to be instructors and should have a good record for quality while meeting job standards.

Personality and interest in teaching, however, are probably more important than superior job skill. The best coach need not, himself, be the star player.

One of the best indications of teaching ability is the way the prospect, himself, takes instruction and accepts new methods. Also the personnel or training director should consult with the overseers in making the selections, for the *overseer's attitude* can seriously influence the success of an operator instruction program.

Having selected the operator-instructors, the next task is to investigate job methods. In other words, the instructors should know exactly how the jobs they are to teach should be done. If the mill has been making full use of time and motion studies and has been using an industrial engineer, job methods should be well established. However, these methods should be reviewed for the benefit of the operator-instructors. Piecing-up or looping, for example, are typical mill operations, but there are many wrong ways of doing them. The new instructors should be shown the proper methods on each step so that they will teach accepted practices.

Some mills have complete job-break-down sheets for training purposes. These break-downs list all important steps in an operation and give the key points. If these sheets are followed in training new employees, all will be trained in the same and proper manner, and there is little chance of an instructor forgetting to give instruction in one or two details of the operation.

It is a good idea to have these job break-down sheets prepared by the operator-instructors. They learn a great deal about the job in making the sheets, and there can be no question of their understanding them. The training director, overseer, or industrial engineer should study the sheets to make sure they are correct before training begins. Frequently it takes several attempts to make a correct job break-down sheet for even the simplest operation.

The initial training of these op-

erator-instructors usually takes about twenty to thirty hours. It is better if this time is split over several weeks or a month rather than lumped into two or three days of concentrated effort. Then the training should be followed up, or a refresher course given at intervals.

Who Teaches the Teacher?

There remains the question of who is going to instruct these instructors. In most mills the personnel director or training director is the man best qualified to do this job. Most have had courses in instruction methods or are teachers by training. Some mills would rather have the operator-instructors trained by their own overseers, and if this is preferred, the overseers will need guidance in teaching methods. This can be given by the training director, or the overseers can be sent to special training courses such as those sponsored in various cities by Training Within Industry Foundation. In two, five-hour sessions, these men are taught how to teach, and they can pass what they have learned on to operator-instructors.

Personnel directors, overseers, and training directors can also learn many valuable training methods from conferences such as the one held at Duke University each year and the Blue Ridge Conference. At these meetings men have an opportunity to learn training methods used in other mills and other industries.

Where to Teach

If a mill has qualified instructors for operator training in each major department in the mill, the next question is, "Where and under what conditions should operator instruction be given?"

There are two possibilities. Instruction can be given on the job, in which case the operator-instructor and the learners work side by side on actual production jobs. Or, there can be a training area set up with working conditions similar to those in the mill but without actual production work. Although this second method has many obvious advantages from the instructor's and the student's point of view, it is practical only in the largest mills or those having high labor turnover. Machinery and space are expensive, and few mills can afford an outlay for duplicate machinery for instruction purposes. For this reason, most mills prefer to have the instructors teach on the job.

Instructor Pay

How should the operator-instructor be paid for giving instruction? Two methods are in general mill use. One group of mills does not pay operator-instructors extra. Pay is based on production just as in the case of regular operators who do not give instruction.

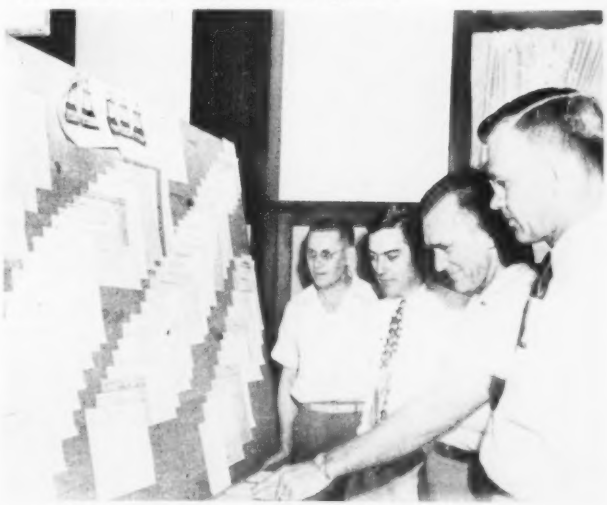
It is recognized that the instructor is slowed down for the first week or so of instruction, but after that the learners are of considerable help, and either wages of the instructor go up as a result or his work is easier. This balances so that over the entire training period, the operator giving instruction averages a higher wage than an equally skilled operator who gives no instruction.

Those using the other method, and one which is gaining more support, claim that instructors should not be worried by reduced wages during the vital first stages of instruction, and as a result, push the trainees too fast. While the first system encourages the trainees to meet standards of output rapidly, it does not adequately teach quality production methods. With these thoughts in mind, many mills pay a bonus over regular wage rates for instructors, and guarantee a higher than average wage.

It is also possible to use a compromise method of pay for instructors. A bonus can be paid to the operator until output from the machines goes above a set standard, after which the instructors get the advantage of increased pay resulting from the assistance given by the trainees.

Perhaps none of these systems

TRAINING METHODS used by other mills and other industries are available to personnel directors, training directors, and overseers who attend conferences such as the Southern Industrial Relations Conference held annually at Blue Ridge, N. C.



of pay is ideal. The important point is to make sure that the operator-instructor gets extra pay for teaching and that the extra pay is not given in such a way as to encourage too rapid or incomplete instruction.

Vocational Schools

Some operator training is being done through state vocational schools. High school students, veterans, and mill employees may take courses which will train them as operators of textile machinery. These courses are free in most instances, and in many southern states are given at such times that shift employees may attend. However, vocational schools concentrate on fixing courses rather than machine operation; and the details on these courses are discussed under "Trade Training."

Retraining

There are occasions, other than teaching a skill to a new employee, when operator training is needed. It is sometimes necessary to retrain old operators to correct errors in methods or to inaugurate a new method. This type of training is particularly difficult, and it is not wise to use other operators as instructors. It is easy to understand that one operator would find it hard to take training from another operator whose production rate might be lower than his own.

Retraining is done better, in most instances, if overseers or even outsiders are used as instructors. This eliminates much of the feeling of "why should he be telling me a new way when he can't turn out as much as I can now?"

The personality and teaching ability of the overseer determines how successful he will be in retraining. There is a tendency toward resenting retraining, and even supervisors may not be able to handle the job properly unless they have tact and teaching ability.

There is also need for retraining old operators when improved machinery or new techniques are installed. In changes of this type, the overseer is instructed by a representative of the company manufacturing the machinery; or by an industrial engineer, in the case of new techniques. The overseer then passes his information and new skill on to the operators under him.

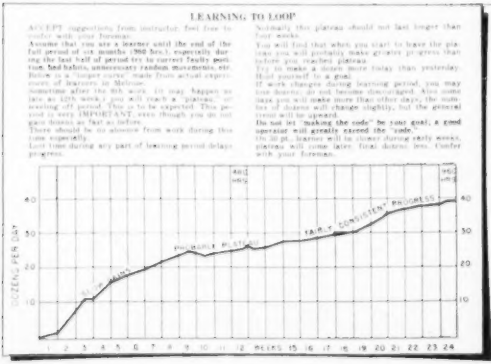
Since the overseer or his assistant must be used for training of this type, it is wise to see to it that he has been given some training in instruction methods even if he does not instruct new employees.

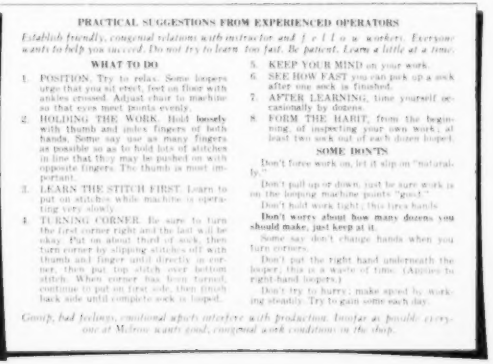
Learning Charts

Learning charts are one of the most valuable tools in operator training. These are simple, easily read charts on which time is plotted against production. For example, a learning chart for a weaver or knitter would show the number of looms or machines being operated by the learner on the vertical axis and the number of

HOW WEAVERS ARE TRAINED at Fieldcrest's Sheeting Mill in Spray, N. C., is shown in photos on opposite page. **(1) Planning the Training:** mill supervisors discuss training needs of weave room and map plans, with assistance from the training department. **(2) Briefing the Instructor:** with training program drawn up in detail, conference is held with instructor (an experienced weaver) to go over specific training steps to be taken. **(3) Illustration:** order of drawing-in ends is illustrated from diagram for class of weaver learners on third shift, where weaver training is conducted. **(4) Demonstration:** at the loom, instructor demonstrates procedure for drawing-in ends. **(5) Practice:** learners are given concentrated and repeated practice so that they develop skill and speed at an early stage in the training program. **(6) Quality Emphasized:** At cloth perch, instructor points out to group of learners how misdraws and other errors cause defects in cloth.

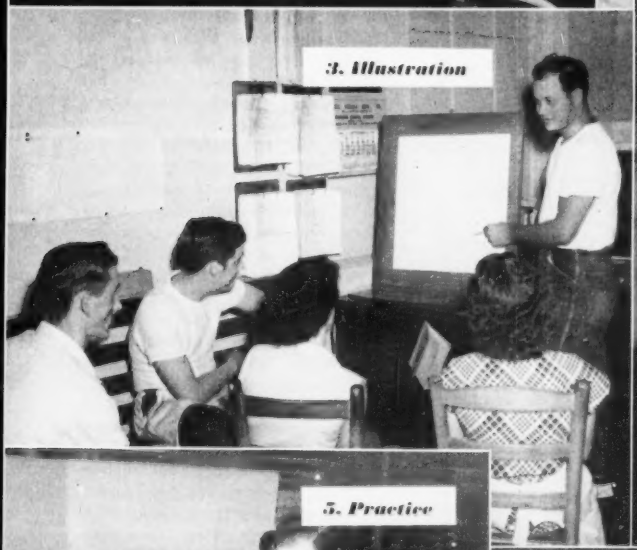
LEARNING CHART FOR LOOPER OPERATIVES. Employees learning to loop at Melrose Hosiery Mills are given a card like the one reproduced here. On the face of the card (left) is information to guide the operative during the learning period, along with a "looper curve" made from experiences of learners at Melrose. On the back (right) are suggestions from experienced operatives. Note the manner in which the instructions are given—always encouraging the learner; never threatening him with production goals.


LEARNING TO LOOP
DOZENS PER DAY
DAILY CONSISTENT PROGRESS
PROBABLE PLATEAU
1 2 3 4 5 6 7 8 9 10 11 12 WEEKS 15 16 17 18 19 20 21 22 23 24

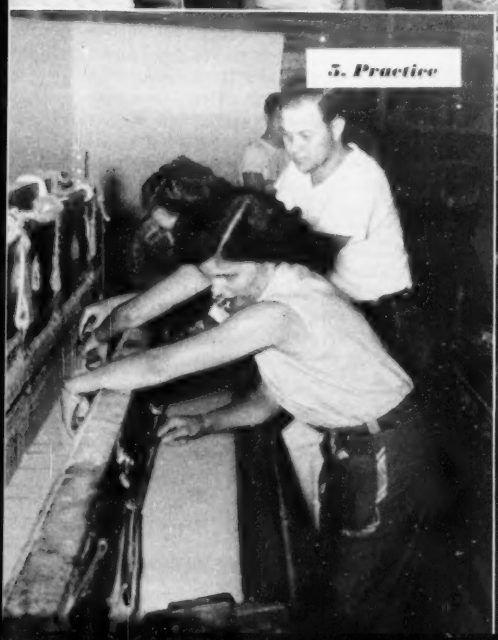

PRACTICAL SUGGESTIONS FROM EXPERIENCED OPERATORS
Establish friendly, congenial relations with instructor and fellow workers. Everyone wants to help you succeed. Do not try to learn too fast. Be patient. Learn a little at a time.
WHAT TO DO
1. POSITION. Try to relax. Some loopers urge that you sit erect; feet on floor with ankles crossed. Adjust chair to machine so that eyes meet points evenly.
2. HOLDING THE WORK. Hold loosely with thumb and index fingers of both hands. Some say use as many fingers as possible so as to hold lots of stitches in line that they may be pushed on with opposite fingers. The thumb is most important.
3. LEARN THE STITCH FIRST. Learn to put on stitches while machine is operating very slowly.
4. TURNING CORNER. Be sure to turn the first corner right and the last will be okay. Put on about third of sock, then turn corner by slipping stitches off with thumb and finger until directly in corner, then put top stitch over bottom stitch. When corner has been turned, continue to put on first side, then finish back side until complete sock is looped.
5. KEEP YOUR MIND on your work.
6. SEE HOW FAST you can pick up a sock after one sock is finished.
7. AFTER LEARNING, time yourself occasionally by dozens.
8. FORM THE HABIT, from the beginning, of inspecting your own work; at least two sock out of each dozen looped.
SOME DON'TS
Don't force work on, let it slip on "naturally."
Don't pull up or down, just be sure work is on the looping machine points "good."
Don't hold work tight; this tires hands.
Don't worry about how many dozens you should make, just keep at it.
Some say don't change hands when you turn corners.
Don't put the right hand underneath the looper; this is a waste of time. (Applies to right-hand loopers.)
Don't try to hurry; make speed by working steadily. Try to gain some each day.
Gossip, bad feelings, emotional upsets interfere with production. Involve as possible everyone at Melrose with good, congenial work conditions in the shop.

1. Planning the training

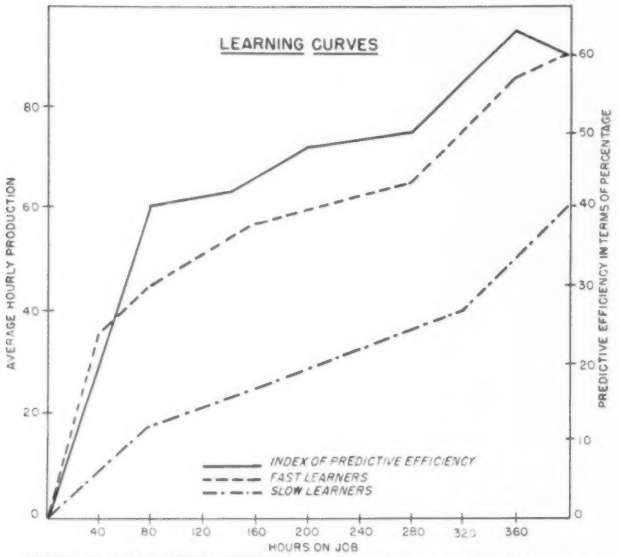
2. Briefing the instructor


3. Illustration

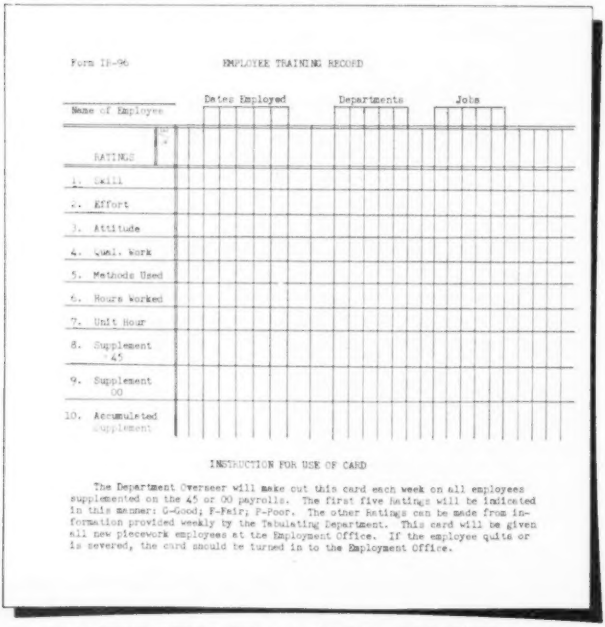
4. Demonstration


5. Practice

6. Quality emphasized



MASTER LEARNING CURVES, used intelligently, will show very early in the training period just which of the new employees are going to make good and which should be dropped or transferred to another type of work.



Form TP-96 EMPLOYEE TRAINING RECORD

Name of Employee | Dates Employed | Departments | Jobs

RATINGS

1. Skill
2. Effort
3. Attitude
4. Qual. Work
5. Methods Used
6. Hours Worked
7. Unit Hour
8. Supplement .45
9. Supplement .00
10. Accumulated Supplement

INSTRUCTION FOR USE OF CARD

The Department Overseer will make out this card each week on all employees supplemented on the 45 or 00 payrolls. The first five ratings will be indicated in this manner: G-Good; F-Fair; P-Poor. The other ratings can be made from information provided weekly by the Tabulating Department. This card will be given all new piecework employees at the Employment Office. If the employee quits or is severed, the card should be turned in to the Employment Office.

QUALITIES OTHER THAN LEARNING PROGRESS can best be shown in reports like this from the trainee's overseer.

days of training received on the horizontal axis.

It has been found that all operator learning charts have some of the same characteristics. There is a period of time at the beginning of training when the students make rapid advances. Then, there is a leveling off period in which the improvement rate declines. During this period the students continue to improve, but not at the same rapid rate. Finally, there is another period of increased learning rate during which the student progresses to full operator standards or at least to about the standard the particular student can reach.

If enough records on students are kept, it is soon possible to construct master learning curves, which will show what production is standard for learners on a particular job at the end of any number of hours of instruction. Intelligent use of a master chart will show, very early in the training period, just which of the new employees are going to make good and which should be dropped or transferred to another type of work.

Ivan Feng, of the Department of Textile Research, N. C. State College, has made an investigation of these curves and has found that mills are also making use of them to determine the break-even point between training costs and efficiency required for the job.

Assume, for example, that a mill is now giving eight weeks' instruction to weaver trainees. The construction of learning charts would show how much the trainees learn in the last two weeks of training. These last two weeks might add so little to the trainee's skill, that it would pay to stop training at the end of six weeks.

Or, the reverse might be true. A master learning curve would show whether training was being stopped at a point where the trainee was improving at a rapid rate. A few extra days or weeks might more than offset training costs.

Master learning charts can only be prepared after a sufficient number of individual learning charts have been drawn. Twenty to fifty charts can be averaged to give a master chart which should be quite accurate. Satisfactory master charts can, however, be made from fewer cases.

The value of learning curves is demonstrated by the example of one mill which had, over a period of years, collected curves and prepared a master curve for a job which required high manual skill, keen color vision, perceptual memory of a high order, and definite emotional stability. The full training course took from 8 to 13 months, but after only one month the trainees' production rates at the end of training could be predicted by comparing their learning charts with the master chart. Such early predictions are not absolutely accurate, but they are reliable enough to give real help to the training director.

On trainees in weaving and quilling, which in sheeting mills might require about four weeks' training, reasonably accurate predictions of trainee results could be made after about a week, thereby saving money by separation or transfer of students not suited to the job.

Learning curves also show a great deal about instructors and instruction methods. If one instructor consistently is more successful with his students or teaches them more rapidly, a little investigation may show the methods he uses in doing his job. Conversely, if an instructor is consistently less successful with his students than other instructors, it may indicate that he is not qualified for teaching or needs more instruction in teaching methods. Charts are invaluable in this respect.

Good teaching techniques show up quickly on learning charts. One hosiery mill, for example, found that loopers learn much more rapidly if given 10 minutes rest in every hour. This was proved by comparisons of these charts.

Learning Charts Not Transferable. The experiences of one mill in construction of master charts is of no direct value to another mill, for except in rare incidences, almost coincidences, learning charts for one mill will not apply in another. Even for two mills in the same locale, on the same type of cloth, and with about the same equipment, learning curves would not be the same. These are not the kind of curves to be ordered ready made from the Department of Commerce. Each mill will have to prepare its own.

Fortunately, these curves are easy to construct. Simply get a daily report on each learner, showing the number of sides, machines, or units of production for that day. Plot these figures on a graph similar to the one illustrated. After collecting ten of these from ten different students throughout a full training program, average the graphs for the successful students who reach standard production at the end of the training period.

As new trainees begin their courses, their production records are compared with the master chart. Soon it will be possible to predict at an early stage which trainees will be successful and which will not.

Ten curves or less will not give too accurate a master curve, so, as the training program progresses, other groups of learning curves should be averaged to produce a more accurate master curve. Also, the master curve should be examined from time to time to see if it might not have been changed by introduction of improved instruction methods.

Operator Training Check List

Yes	No	
( )	( )	Are instructors trained in the use of proper teaching methods?
( )	( )	Do these instructors want to teach?
( )	( )	Do they know the right methods and techniques for the jobs they are teaching?
( )	( )	Are job break-down sheets available to assure complete and proper training?
( )	( )	Are conditions in the mill such that instruction can be given without too much loss of production?
( )	( )	Is there opportunity for instructor and trainee to discuss operating methods without being distracted by production demands?
( )	( )	Is there a wage system designed to assure the instructor extra pay all during training periods?
( )	( )	Have the possibilities of having operators trained in vocational schools been investigated?
( )	( )	Are older employees retrained to correct methods?
( )	( )	Are employees retrained when there are changes in machinery or methods?
( )	( )	Are learning charts used to full advantage in the training program?
( )	( )	Are records kept to show trainee's attitude, effort, or skill?
( )	( )	Is there a fixed system of follow-up on new employees after training ends to make sure correct methods are carried over into production jobs?

Other Records

Although the learning curves show the rate at which the trainee is gaining skill toward standard production, there are other trainee qualities in which the training department is interested, and these

qualities can best be shown in reports from the overseer. A report of this type is illustrated [page 98].

Note that it involves such factors as effort, attitude, and skill rather than production rates. These less concrete characteristics of a trainee are important, too. They tell a great deal about the type of employee the new man will be when he is on a regular job.

Trainee Follow-Up

It is important that there be a set procedure for follow-up on trainees when the regular training course is completed. This is usually the job of the overseer or his assistant, who, being familiar with the correct methods and techniques, is in a position to note incorrect methods which might develop after training. Caught quickly, these errors can be corrected quickly; if given too long to develop, retraining may be necessary.

In some mills the mistake is made of giving this job of follow-up to the training department or the operator-instructor. After training is complete and production standards have been met, the new employee would rather feel that he is an equal of the other operatives about him. He would prefer to get further instruction only from his supervisors.

Trade Training

men master machines

TRADE TRAINING is the training of fixers, mechanics, welders, steam fitters, or masters of other trades requiring skill and technical ability beyond that required for operators of machines. Loom fixers and fixers in other departments are typical of employees in mills who require trade training to qualify for their jobs.

Although most operator training is conducted by an operator-instructor on the job in the mill, trade training is frequently conducted in special classes held outside the regular production areas —vestibule training, it is called. Also, while operator training is usually the sole responsibility of the mill, trade training is more often than not conducted in conjunction with some state educational agency.

All of the major textile states offer vocational training programs for trade training in textiles. An outline, which is typical of the programs offered by southern textile states, is presented to indicate the type and scope of these state sponsored courses. Mills are making wide use of these training programs, and it is seldom one finds a mill that has not at some time made use of a state sponsored course of some type, such as in loom fixing.

The major reason for a mill not using these courses is lack of enough suited students or lack of employee turnover in jobs requiring technical skill. North Carolina requires ten students before the state will sponsor a course, and Georgia, while having no specified minimum, recommends twelve to the class.

Formerly, most students first enrolling in textile trade classes started with a course in mill mathematics. Now, according to George W. Coggins, of the N. C. Department of Public Instruction, the tendency is toward students starting right in on fixing and technical courses. Employees entering the mills, today, have a far better basic education than they had a few years back.

North Carolina has three textile vocational schools, one at Belmont, one at Spray, and one at Roanoke Rapids. Besides this, the Vocational Department will set up extension courses at any mill where there are enough interested students and suitable instructors.

Georgia concentrates on extension classes, this year offering 160 classes in 25 different mills.

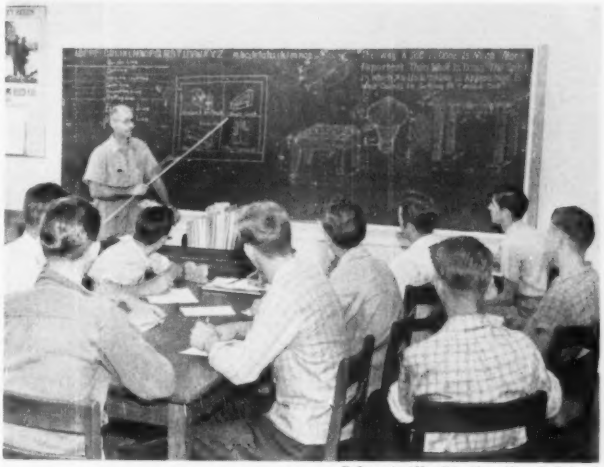
Financing Trade Classes

The salaries of instructors for these state sponsored trade classes come from three sources—federal, state, and local. The state pays one-fourth, the federal government (under the Smith-Hughes and the George-Barden acts) pays one-half. This leaves one-fourth to be paid locally. The local school system can assume this cost, but this is rare in view of the straited circumstances of most local school districts. The student can be required to pay this portion as tuition, or the mill can pay the local assessment.

Georgia recommends that the students, themselves, pay the tuition and the cost of books. This outlay runs to about $9.00 per year for the combination, so it is not excessive, and when the student makes the investment he feels that he is personally providing for his own improvement.

Whether the mill or the student should pay the tuition and cost of books depends primarily on the type of course and the purpose for which it is taken. Inasmuch as there is disagreement on this point, it would seem that the mill should pay when the student is training to improve his skill in the field in which he is employed. In fact, there are some cases in which the Wage and Hour Law not only

TRADE TRAINING PROGRAMS offered by all of the major textile manufacturing states are being extensively used by the mills to keep their reserve of loom fixers, mechanics, welders, etc, at a safe level.



Belmont (N. C.) Vocational School

requires the employer to pay the cost of the course but requires that the mill pay the student for his time in class. For information on this aspect, see the section of this article on Training and the Law.

Of course, if attendance at class is required by the mill, the mill must assume all costs including regular or overtime pay for the trainee (an exception to this is in apprenticeship training under signed Articles of Apprenticeship, where the apprentice may pay for his tools and books); but it is considered good industrial relations practice for the mill to pay for tuition and books when the course is designed to improve an employee in his own line of work.

For example, if a man is hired as a helper for a loom fixer or knitting machine fixer, the mill should pay all costs involved in his taking a course in fixing, a course which will increase his

Typical Textile Trade Training Vocational Program

Course of Study. Any type of trade training used in textile mills except operation of machines. Generally, this means training of fixers and mechanics as opposed to weavers, knitters, boarders, spinners, or doffers.

Subjects in One Class. Classes may be organized to teach the technical and mathematics subjects only, or the fixing and other manipulative subjects only, or they may be organized to teach both types in the same class.

Instructors. The instructor may be any supervisor or employee who knows his subject and is respected in the mill. Instructors should take a short course in teaching methods before the start of the classes.

Pupils. Both men and women may enroll for classes, and there is no age limit, but some states require that students be over 16 years old.

Number of Pupils to a Class. Some states require ten. All recommend twelve to twenty. North Carolina drops classes where enrollment falls below six.

Number of Classes to a Mill. There is no limit except availability of space and teachers. This largely depends on the size of the mill.

Class Schedule. Usually classes meet for two hours, twice a week.

School Year. Classes customarily run from October to April, but may go through the year if pupils desire.

Diplomas. Credit cards are given for each unit of study, and diplomas, standard throughout the South, are given for completion of full trade courses.

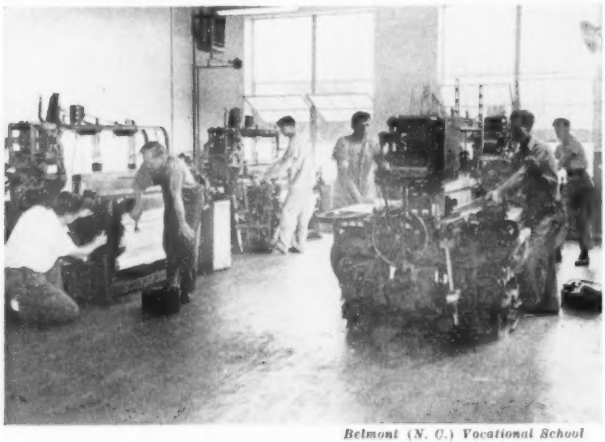
Length of Course. A student attending class regularly can receive a diploma in his field of study in about three years.

Books and Study Guides. State Departments of Education furnish study guides, outlines of courses, and lists of texts.

Location of Classes. Skill classes must be held at the machinery in the mill or at machinery set aside for training purposes. Other classes can be held in any class room in local schools or in a class room in the mill or civic center.

Instructors' Salaries. Instructors, who are technically employed by the local school system, are paid from $2.50 to $4.80 per hour. Of this, one-fourth comes from the state, one-half from federal, and one-fourth from local funds. These local assessments may come from the local school district, the mill, or from the students in the form of a tuition. This one-fourth amounts to about $4.00 to $10.00 per year, per student, depending on the number in the class and the salary of the instructor. The cost of books should average about $3.00 per year.

Factors for Success. The instructors should be respected by the pupils. Pupils should be carefully selected. Management should show an interest in classes and the progress of the students.



Belmont (N. C.) Vocational School

MACHINES ARE NEEDED for teaching the practical aspects of vocational courses such as loom fixing. Are adequate facilities provided for this purpose at your plant?

skill in his work. On the other hand, if a doffer or full-fashioned knitter should decide he wants to become a card grinder or full-fashioned machine fixer, it might be best for him to pay the costs of the course.

Although this plan is logically fair, the mill may have a hard time explaining why it pays for one man taking a course and does not pay for another. For this reason, as well as in the belief that all training improves the educational level of the mill, there is a sizable group of mills that pays for all sponsored courses for all students. However, most managements specify that a course must be successfully completed if the mill is to assume the cost of tuition and books.

Class Location

All states sponsoring vocational courses recommend that classes be held in or as close to the mill as possible, and an effort should be made to schedule classes to suit employees on all shifts. In trade training, machinery is needed to teach the practical aspects of the course. In larger mills, areas have been set aside and machinery typical of that used in the mill has been installed for the use of the students.

In smaller mills, or in teaching the fixing of larger machines like automatic winders and tricot or full-fashioned knitting machines, instruction must be given on production equipment.

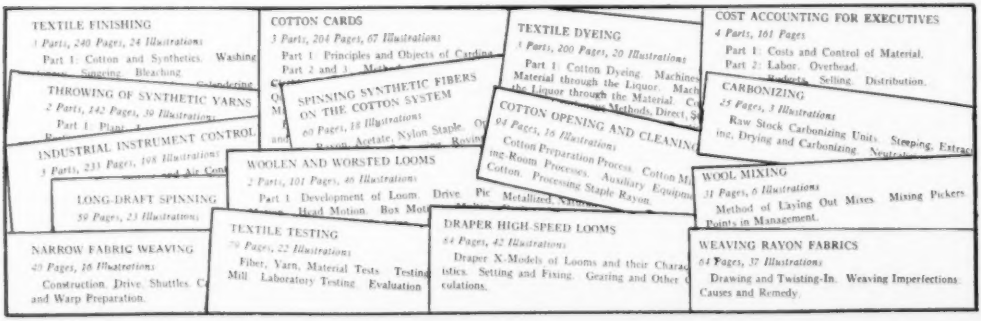
Lectures should be given in rooms provided in the mill or in a near-by public school.

In most older mills, space is at such a premium that it is impractical to provide large training areas and class rooms. New mills have such facilities included in the plants. One new mill in South Carolina has a loom fixers training room in which the looms used for instruction have all motions painted a different color. This is an excellent aid to training and is such a simple thing it could be adapted by all mills which have looms set aside for training purposes.

Correspondence Courses

It is well known that the International Correspondence Schools offers a number of excellent courses in textile subjects, most of them of a technical nature. A few mills use these courses instead of courses offered by state vocational programs. The variety of courses offered is much greater than could be offered in instructor-conducted classes, and they offer the distinct

THE VARIETY OF TEXTILE SUBJECTS that can be studied through the medium of correspondence courses is illustrated by these clippings from the ICS catalog. The fixing courses are especially popular.


TEXTILE FINISHING
Part 1: Cotton and Synthetics. Washing
THROWING OF SYNTHETIC YARNS
Part 1: Plant
INDUSTRIAL INSTRUMENT CONTROL
LONG-DRAFT SPINNING
NARROW FABRIC WEAVING
Construction. Drive. Shuttles.
and Warp Preparation.
COTTON CARDS
Part 1: Principles and Objects of Carding
SPINNING SYNTHETIC FIBERS ON THE COTTON SYSTEM
Acetate, Nylon Staple.
WOOLEN AND WORSTED LOOMS
Part 1: Development of Loom. Drive. Pic
Head Motion. Box Mot
TEXTILE TESTING
Fiber, Yarn, Material Tests. Testing
Mill Laboratory Testing. Evaluation
TEXTILE DYEING
Part 1: Cotton Dyeing. Machines
Material through the Liquor. Mach
the Liquor through the Material.
COTTON OPENING AND CLEANIN
Cotton Preparation Process. Cotton M
Cotton. Processing Staple Rayon.
DRAPER HIGH-SPEED LOOMS
Draper X-Models of Looms and their Charac
istics. Setting and Fixing. Gearing and Other
colations.
COST ACCOUNTING FOR EXECUTIVES
Part 1: Costs and Control of Material.
Part 2: Labor. Overhead.
Selling. Distribution.
CARBONIZING
Raw Stock Carbonizing Units. Steeping. Extrac
ing, Drying and Carbonizing. Neutrali
WOOL MIXING
Method of Laying Out Mixes. Mixing Pickers.
Points in Management.
WEAVING RAYON FABRICS
Drawing and Twisting-In. Weaving Imperfections.
Causes and Remedy.

advantage of requiring no minimum enrollment.

Here, again, the fixing courses are the most popular, and a mill with one to ten trainees can enroll them in the appropriate course, giving them practical experience in apprentice or helper work in the mill while they fulfill the requirements of the correspondence courses in their off time.

Since these courses are designed to improve the skill of employees, the mills usually pay for the cost of tuition and books so long as the student is doing his required work satisfactorily. However, at least one large mill in South Carolina makes it a practice to pay for half the cost of any ICS textile course which any employee wishes to take, whether or not it is in his line of work—providing the course is passed.

It is seldom a real problem to choose between state vocational courses or correspondence courses. While no one questions the high standards of the ICS texts and teaching methods, most educators will agree that class room work under trained instructors is the best teaching method. ICS courses are used where the trainee group is too small for a scheduled class or where extra courses are desired which are not offered in formal classes.

Apprentice Training

The training for a trade is a long term proposition. Two to three years is the time normally allotted to training a skilled technician. Courses in class can seldom be given for more than a few hours out of each week, and the remainder of the needed training must come as an apprentice or helper, where the trainee learns by working with a mechanic or fixer.

Ideally, the mechanic or fixer is in charge of one or more helpers over a period of years, training them in his skill, and he should know something of teaching methods. Frequently, it is impossible to find the right man for this type of instruction. No mill is going to let a good mechanic go because he does not have the right personality to make a good instructor, but in hiring new mechanics, teaching ability and interest in teaching should be taken into account.

A course in instruction methods, which seldom takes more than ten hours, is worth a try on any mechanic who is training a group of helpers. These short courses can be of value, and they will do no harm with even the most crotchety of old-school master mechanics.

Management's Attitude

All through this trade training, in both the apprenticeship and the class-room phases, the attitude of management is important. It should be clear that the assistant overseer, the overseer, the superintendent, and the men at the top are in favor of training courses and are watching the progress of the students. A dinner, a picnic, a dance, or some social affair should be given at the end of the school term for the students completing the courses. Some members of management should be present to indicate management's approval and show the students they are being watched in their progress. Certainly, the overseers and the superintendent should show up at the last class of the term and look over the reports.

The progress of students enrolled in sponsored vocational classes or correspondence courses are sent to the training director or his equivalent at the mill, but it should be well known to the students that these reports are given more than a perfunctory glance.

Trade Training Check List

_____ How many of your mill's employees are interested in receiving trade training?

_____ How much trade training is needed to supply the demands of your mill for fixers, mechanics, and other skilled employees?

Yes	No	
( )	( )	Are you making use of the vocational textile training offered by your state?
		If so:
( )	( )	Are classes offered at such times that studen's from all shifts may attend?
( )	( )	Are classes held in or as close to the mill as possible?
( )	( )	Are equipment and class rooms adequate for the courses being taught?
( )	( )	Are you using the best instructors available?
( )	( )	Is the mill paying for tuition and books for students taking courses to improve their skill in the field in which they work?
( )	( )	Have the advantages of paying tuition and cost of books for all approved courses been considered?
( )	( )	If there are not enough students for state sponsored vocational courses, have ICS courses been considered?
( )	( )	Are correspondence courses available for students desiring instruction in courses not provided in state sponsored programs?
( )	( )	Does management, from assistant overseer up, show interest in the training courses and the progress of employees under them?
( )	( )	Are mechanics or fixers who train apprentices properly impressed with the importance of the teaching phase of their work?

Progress on apprenticeship work under a mechanic should also be recorded on some type of report form. Such reports not only encourage the apprentices, but they also impress the mechanic with the importance of his work as a teacher.

The attitude of the overseer toward training is most important. A large mill in Virginia found that the number of students from any mill department depended directly on the attitude of the overseer. The reason for taking any educational course is self-improvement for advancement in the mill. If an overseer scorns the value of training courses, it is obvious that he is not going to give or recommend promotions on the basis of skill or training. Under such a supervisor, what possible reason would there be for taking training courses? Those under him must expect promotion on some less excellent basis than ability or preparedness.

Supervisory Training

men manage men

MILL MANAGEMENTS do not agree on the importance of supervisory training. Some consider it the most important type of training a mill can offer its employees. Others feel that it is a nebulus affair which takes up time better devoted to production work.

Most smaller mills offer very little in the way of training for supervisors, and many large organizations have no formal program, limiting their supervisory training to an occasional meeting of supervisory personnel.

One large mill chain in the Carolinas, however, concentrates about 90% of its training efforts in the supervisory field. The philosophy of management at this mill chain is definite:

About 75% of the work in a textile mill, they say, is performed by unskilled labor. [Some other mills disagree with this figure.—Ed.] Training operators to these unskilled jobs is simple if the right kinds of people are hired.

The efficiency of the mill and the progress it makes are directly dependent upon the knowledge, skill, personality, and ability of the supervisors. If supervision is good, operation is going to be good. Furthermore, with a union contract which places emphasis on promotion by seniority, good supervision is doubly important. Less control over the selection of operators, in other words, requires superior ability in supervision.

How One Mill Gets Its Men

With these thoughts as a background, the practice of the mill is to hire operatives with potential supervisory ability, regardless of the level of the job for which they are hired.

The selection process starts with a school vacation program. Each summer the mill hires about 200 students from high school and college to work during their vacation periods. Supervisors keep a close eye on these students and turn in written reports to the personnel director every two weeks. At the end of the summer, these students fill out questionnaires which are designed to indicate their attitudes toward their work and the company.

When the next summer comes around, the students selected are those who have done well the previous summer and have indicated an interest in textile manufacture. These, along with students starting for the first time, make up the 200 hired.

By the time a boy or girl has worked in the mill two or three summers, the personnel director and the supervisors know a lot about his or her ability and interests. This program weeds out the unsuited and helps determine which will make future supervisors.

Some of these high school students will go to college, and those who are really interested in textiles will take courses which will train them for some type of textile work. These boys are employed during their summer vacations, and they are graded and watched in their mill work.

During this weeding out process, some of these young people have shown an interest in textiles but appear to be best suited to the operating level of mill work. Others, showing potential supervisory ability, are slated for higher jobs. Some with higher educations and particular ability are hired from college and started on special training courses designed to fit them for executive, engineering, or sales work.

This program is considered a part of supervisory training because it is supervisory personnel

THE CONFERENCE TECHNIQUE for supervisory training is best adapted to discussion of current problems of mill policy, methods, etc. Here waste problems are discussed by a group of Joanna (S. C.) Mills' overseers.

which the mill is seeking. In this long period of association with the students, the mill management is able to get exactly the men it wants and the men that want the mill. In the process the system finds operators on one end and executives or technical personnel on the other, all of them being persons who want to work in mills.

There is also another program under which the mill hires high school students after class for second shift work, and these students are also graded and watched. This offers a second pool for the hiring of potential supervisors.

Conferences. Those employees who are supervisors or are on their way to becoming supervisors are given special training which is largely through weekly conferences. Although this feature of supervisory training has not as yet been perfected, these conferences are led by trained men, and a real effort is made to instruct in supervisory methods and stimulate the thinking of the supervisors.

Analysis

One handicap in the progress of this supervisory training program lies in the fact that the training director is not yet sure of exactly the type of training the current supervisory staff needs. With the help of a specialist in supervisory education and a consulting psychologist, an effort is being made to determine the needs of supervision. Currently, this takes the form of an appraisal of supervisory personnel.

Every supervisor is being appraised to find his performance standard, the methods he uses, and his personal qualifications. Appraisals are made by a group of superiors. For an assistant overseer, for example, the appraisal is made by his overseer, the overseer of another department, and two assistant superintendents. This appraisal is turned over to a Review Board made up of the superintendent, the personnel director, the assistant general manager, and a vice-president.

This Review Board examines the appraisals turned over to them and then proceeds to appraise the overseer, himself. This personal

PROGRESS OF STUDENT EMPLOYEES is reported by overseers of one mill on the form shown at the left below. Right, questionnaire filled in by students when summer work period is completed.

FOR APPRAISING SUPERVISORS this form is used by one chain of mills. It is believed that the type of supervisory training needed will be revealed when appraisal of all supervisory personnel is completed. Front of form (left); back, right.

appraisal is turned over to the superintendent, and he goes over it with the overseer and also discusses with him the men under him whom he has helped appraise. Faults are pointed out, and guidance is given to correct these faults. Good points are noted and the man is encouraged to emphasize them.

The personnel manager feels that this survey will aid him and his staff in directing supervisory training into the channels in which it is most needed.

This mill's program is strongest in its complete and well planned program for selection of supervisory personnel. It is weakest in not having a thorough and formal training program for the personnel so selected. The mill's reason for this, and a good one, is that the program still is in the early stages, just finding out what type of training is most needed. When management knows, it can direct the training efforts rather than scatter a broadside.

Full Training Program

Another large mill, this one in Virginia, has an excellent training program for supervisors which has been in operation for a number of years, and though this mill emphasizes other forms of training as well as supervisory training, the program is broad and complete.

The training courses for supervisors at this mill are based on the belief that a very high percentage of the work a supervisor does is in dealing with people. In order to train the supervisor to meet personnel problems, courses are offered in labor relations, labor analysis, cost control, public speaking, foremanship, industrial management, conference leading, supervisory orientation, and familiarity with service departments.

In the course on labor relations, the foremen are instructed in the interpretation of the contract with the labor union so that they may know the rights of both management and labor. Special situations are dramatized in class so that the student may see how similar situations should be handled.

The classes in labor analysis and cost control are given to all foremen so that they may be able to interpret methods to the employees under them.

The course on familiarity with service departments is rather unusual. It is the belief of management in this mill that too few supervisors understand the importance of, or even the functions of, the service departments, such as accounting, personnel, statistical, and public relations departments. All supervisors, from secondhands to superintendent, are given two-hour sessions with the heads of each service department. This assures an understanding on the part of the production supervisors of the importance of the service departments in the production of textiles.

Group Training Methods

There are two methods of group supervisory training: One is the use of the conference technique, the other is the conducting of formal class room courses. Both can be valuable, and the complete supervisory training program neglects neither. The conference technique is best adapted to discussion of current problems of mill policy, special situations, and mill methods—such as waste control.

Class room courses are better adapted to subjects which are of a technical nature or require an increase in skill. Labor law (a technical subject, as opposed to interpretation of a union contract, a specific problem) is a subject suited to class room instruction, as is textile chemistry, public speaking, or report writing.

Conference and class room courses further differ in that in most mills using them, conference attendance is compulsory, but enrollment in class room courses is voluntary except for rare exceptions.

Instructors for supervisory training courses, just as instructors for trade training, should be men who know their subjects and have the desire to teach. They should be men respected by their students, and are usually from the top ranks of supervision or are professional teachers.

Conference leaders should have special training in the technique of leading conferences. Such courses can be had in special classes given by Training Within Industry Foundation, from time to time, in various locations through-

out the country.

Never make a man an instructor because you want to teach him something. It is true that the teacher learns his subject, but the unsuited teacher does more harm to the group than he does good for himself.

Individual Training

All supervisory training need not be done in groups. Individual training is also important. Supervisors are supposed to be posted as to new machinery and methods in textiles. To be kept up to date they must be furnished with trade magazines, manufacturers' bulletins, technical books, and occasion to talk with men from other mills.

Needless to say, supervisors should be provided with or encouraged to subscribe to the leading trade magazines in their field, such as TEXTILE INDUSTRIES. It is the only sure way to keep up with new methods and machinery in the industry.

There should also be someone in the organization who has the assigned duty of reading through each month's issues and marking articles applying to each department, calling the attention of the supervisor to those articles.

The purchasing agent could be helpful by seeing to it that supervisors see and read manufacturers bulletins on new equipment.

A library, even if it is no more than a table and a bookcase, should be available and stocked with appropriate technical reference books, and trade magazines, and supervisors should be encouraged to use it.

The meetings of the technical operating associations, such as the Alabama and Georgia Operating Executives, the sectional meetings of the Southern Textile Association, National Association of Woolen and Worsted Overseers, and the sectional meetings of AATCC give supervisors excellent training. These organizations are a major influence in the improved quality of supervisory personnel.

At such organization meetings the supervisor becomes acquainted with his counterpart in other mills, and has opportunity to exchange ideas. This may also be considered part of his training.

Within the mill, personal training can be given by rotating jobs from time to time. Where it is properly handled, much valuable training has come from shifting supervisory personnel to other departments for a long enough period for them to learn how other departments are run. This, however, can be dangerous. Some men at the supervisory level do not take well to change, and a switch to another department or another type of work can disturb them.

Difficult Subject. Training a supervisor is much more difficult than training an operator or a mechanic. Until recently, so little was known about the factors which are required for leadership that training usually meant the offering of vague courses on "How to Get Ahead."

This type of leadership training is disappearing. In its place are being offered concrete methods for dealing successfully with other men. It is now possible to train and make into successful supervisors many of those men who "know their jobs but just can't get along with anybody." Such traits of personality are more easily changed when the subject is young, so no time should be wasted in starting a supervisory training program in the mill. Supervisors are not growing younger.

Supervisory Training Check List

Yes	No	
( )	( )	Does your mill have a program designed to select potential supervisors?
( )	( )	Are records kept to determine which new employees would make good supervisors?
( )	( )	Is your supervisory training program designed to both train new supervisors and retrain old?
( )	( )	Do you make use of the services of an industrial psychologist to appraise the ability of supervisors and prospective supervisors?
( )	( )	Do you hold regularly scheduled supervisory conferences?
( )	( )	Do you encourage your supervisors to attend association meetings where mill problems are discussed?
( )	( )	Do your supervisors have subscriptions to leading textile magazines?
( )	( )	Are manufacturers' bulletins on new equipment sent to interested supervisors?
( )	( )	Have you tried rotation of jobs for supervisors to familiarize them with operations in other departments?
( )	( )	Do you have a plant technical library?

Here is a list of subjects suited to the class room training of supervisors. How many of them are available to your men?

( ) Labor Relations	( ) Public Speaking	( ) Waste Control
( ) Labor Law	( ) Foremanship	( ) Service Department Functions
( ) Labor Analysis	( ) Industrial Management	( ) Time and Motion Study
( ) Cost Control	( ) Conference Leading	( ) Quality Control
( ) Report Writing	( ) Economics	( ) Corporate Structure

Executive Training

men manage mill

IT HAS ONLY been in the past few years that the textile industry has given consideration to executive training, and even now there are few mills with more than a fragmentary program. The hiring of graduate engineers, and their rotation through the mill for a year or so to familiarize them with methods, is about as far as most mills have gone toward training of executives.

Certainly, the hiring of these trained young men is a step toward executive training, and the "flying squadron" system of moving them from job to job for training is well accepted, but it is not enough to train the executives the textile industry needs.

The lack in this method is pointed out by General R. W. Johnson, in his book, "But, General Johnson."

He says:

"It is important to note that for many years we have chosen our management from men who have been educated as technicians and specialists. Unfortunately, American universities do not equally well educate in the great science of human engineering. Recently, it has become apparent that the greatest technical skill is worth little unless men and women can be persuaded to carry out the decision essential to making that skill effective. We are now discovering that a scientific and technological understanding of a subject does not of itself develop or produce ability to lead large groups of people into enthusiastic day-in and day-out response. This means that we must have new management—management not only skilled in the techniques but equally well grounded in the field of human relations."

Colleges—even the purely technical schools—are recognizing this problem pointed out by General Johnson, and they are giving their young engineers and scientists better training in the fundamentals of management. But they never can give enough in the few years a young man is in school to properly train him for an executive position. This training must be left largely up to the mill that employs him. Rapid rotation on jobs of the new graduate over a period of a year or so is just the beginning.

A Full Program

Johnson & Johnson, and its affiliated companies such as Chicopee Manufacturing Corp., and Industrial Tape Corp., have, since the war, developed a complete executive training program. Although it is still not fully developed, it is far more extensive than any program in the mills surveyed. A detailed account of this program will be found in a Johnson & Johnson report to the National Association of Training

QUALIFICATION RECORDS provide an analysis of each executive of the firm, showing in detail his skills, characteristics, mental ability.

QUALIFICATION RECORD

Date	Name			
Feb. 15, 1952	Henry B. Aldrich			
Date of Birth	Age	Marital Status	Other Dependents	Company Service
April 17, 1907	44	married	2	14 years
Present Position		Location	Years in Present Position	
Research Director		Barbee Mills	7	

Eduction - Above High School

1925 - 1929	North Carolina State College	Textile Engineering
1929 - 1933	Columbia University	Physical Chemistry

Experience

1933 - 1937	Research Department, R. P. Henderson Co., Inc.	Research Trainee
1937 - 1944	Research Department, Barbee Mills	Tech. Asst.
1944 -	Research Department, Barbee Mills	Director

Executive Qualifications

A good, quiet personality, who is adaptable, courteous, tactful, and cooperative. He enjoys the respect of fellow employees. He has good physical and mental health with a well-balanced and practical technical knowledge. He has the ability to analyze and reason problems to a satisfactory conclusion. He has resourcefulness and vision and is usually right in his decisions, although a trifle hesitent to make them. He is self-reliant, thorough, and accepts responsibility. He has had limited experience in dealing with people. He has considerable spirit and enthusiasm, which reflects itself in his drive and aggressiveness. He displays shyness in his relations with superiors, and seems too fussy on occasions. He needs operating experience.

Potential Ability

He seems to have potential ability to go far, but unless he can overcome his shyness and tendency to be too fussy, he may be limited to present job. Administrative experience may improve him.

Remarks

This man should be given job rotation assignments in process operations. He needs committee experience to overcome shyness.

Directors, and in John Mee's "Personnel Handbook" (The Ronald Press Company). A condensed summary of the program follows:

1. A bi-monthly conference for executives on economic conditions with emphasis on textiles and rubber.
2. Multiple management (similar to the plan originated by McCormick & Co. in Baltimore) plan under which management, but not board members, meet regularly as an advisory board of directors.
3. Evening dinner meetings (5 or 6 a year) with both an educational and a social purpose.
4. Conferences in which specialized and technical personnel from subsidiaries meet for 2 or 3 days to discuss problems in their fields.
5. Role-playing programs in which executive problems are acted out.
6. A series of case studies are presented to executives from time to time.
7. Selected men are sent to colleges and universities for executive training in management and finance.
8. A ten-hour course in Conference Leadership is given executives.
9. Executives are given a course designed to improve their ability to read swiftly and with comprehension.
10. Courses are offered in public speaking.
11. Conference courses are offered on such subjects as communication, interviewing techniques, and financial investment.
12. Out-of-plant conferences are arranged from time to time and are conducted in much the same manner as out of town sales meetings.
13. Executives are sent to appropriate short term courses held at colleges and universities.
14. Top management—Company Presidents—meet in Executive Development Seminars to discuss executive development.
15. An executive inventory is kept which involves merit ratings, organization analysis, transfers, rotations, and development programs.

This is a program which has obviously taken time to bring to its current state of development, and it is matched in its thoroughness by few industries in the country.

The Executive Audit

Recently, personnel directors and top management have recognized the value of the executive audit, or the executive inventory, as Johnson & Johnson call it in their executive development program. It is a formal examination of jobs and possible men for those jobs at the executive level. This is similar to the Job Descriptions set up for operatives except that it goes into considerably more detail in those qualities needed for leadership. It also analyzes the prospects more personally.

In his "Personnel Handbook," John Mee says, "The executive audit . . . is a device which combs one's own backyard for talent and then lays plans both to develop it further and to use it through carefully planned promotions."

The executive audit is composed of five steps: Summation, Organization Charts, Replacement Tables, Rotational Assignment Schedule, and Qualification Records. The summation includes brief statements which highlight the survey. It should include the number of jobs considered in the survey, the number of employees in the unit, the number of employees having executive responsibilities, the number of job incumbents, and the number of first and second replacements. These data and any other pertinent information which tell how to use the audit should be included in the Summation just as it is in the summation of any other report.

The audit should include two Organizational Charts, one showing the present organization of the company and one showing planned or proposed changes.

The Replacement Table included in the audit shows the names and positions of current executives

> That discerning Scotsman, Andrew Carnegie, once said, "Take away all our factories, take away all our trade, our avenues of transportation, our money. Leave us nothing but our organization, and in four years we shall re-establish ourselves."
>
> And when Herbert Hoover was undertaking the titanic task, in 1921, of saving 160,000,000 demoralized Russians from starvation and typhus, a friend of mine standing beside him before a wall map of Russia wondered if and how the job could be done. Mr. Hoover replied, "It is just a question of finding 150 able men."
>
> To me, the crux of the situation is not so much the need for men, not the scarcity of proven leaders, as it is the failure of American business management generally to introduce an orderly and methodical system for the discovery, development, and assignment of executive personnel.
>
> EDWARD R. STETTINIUS

REPLACEMENT TABLES, showing the names and positions of current executives and their first and second replacements, must be kept up-to-date.

Blank Mills, Inc.

REPLACEMENT TABLE

Job Title	Incumbent	Age	Co. Serv.	1st Replacement	Age	Co. Serv.	2nd Replacement	Age	Co. Serv.
Gen. Manager	J. W. Jones	52	34	R. W. Thomas	34	10	P. N. Prentice	37	6
Mgr. Mill 1	W. F. Smith	44	21	W. S. Hines	40	16	R. L. Hughes	29	7
Mgr. Mill 2	H. Howard	61	44	R. M. Couch	34	5	P. L. Gooch	41	2
Sales Mgr.	S. L. Slick	38	10	H. R. DeVos	29	1	R. N. Lemon	42	9
Cotton Buyer	N. B. Allison	63	18	R. P. Gold	28	4			
Comptroller	J. T. Toms	66	43						
Office Manager	H. N. Peck	55	16	J. R. Hetch	44	8	V. D. Torch	35	4
Purchasing	V. D. Byers	33	4						
Supt. Mill 1	L. E. Evans	56	2	F. M. Reece	52	5	R. L. Vane	30	2
Supt. Mill 2	J. T. Morse	60	14	G. I. Mix	41	14			

and it lists next to them their first and second replacements. A sample of such a table is illustrated. These replacement tables must be changed from time to time for obvious reasons such as death, resignation, or perhaps because of a new decision on the part of top management.

The Rotational Assignment Schedule shows the plan for moving executive personnel from one job to another to improve their understanding of the business and to provide them with wider responsibilities.

The Qualification Record is an analysis made of each executive; it shows in detail his skills, characteristics, and mental ability. An additional analysis form used by Johnson & Johnson grades each executive on the following points: Character, Judgment and Common Sense, Analytical Ability, Decisiveness, Emotional Stability, Ability to Inspire and Influence Others, Development of Personnel, Initiative, Responsibility, Ability to Organize, Service, Open-Mindedness, Ambition, Technical Know-How and Skill, and Co-operation.

The use of an executive audit made up in the manner described will aid in setting up development programs, making long time promotion and transfer plans, staffing the mill at all executive levels, and removing those who are unfit for their jobs.

In a very small company the president can make a mental executive audit, but in the medium and large mills, a formal audit is not only wise but almost mandatory if the mill is to be staffed by the best executives in the days ahead.

Executive Training Check List

Yes	No	
( )	( )	Does your mill hire engineering and other college graduates with the specific idea of training them for executive positions?
( )	( )	Do you keep records of their progress through their rotational training period?
( )	( )	Do you make use of the Placement Services of the schools to help get the right man for the job?
( )	( )	Are your executives kept up to date on economic and market conditions?
( )	( )	Has the mill given consideration to the use of a Multiple Management System?
( )	( )	Do you have regular executive conferences?
( )	( )	Do you send executives to colleges or universities for further training in management or finance?
( )	( )	Are your executives trained in Conference Leadership?
( )	( )	Have your executives been trained in public speaking and the fundamentals of public relations?
( )	( )	Do your executives attend short courses in business methods and management techniques?
( )	( )	Do you rotate jobs for executives from time to time to give them experience?
( )	( )	Do you have a formal Executive Audit?
( )	( )	Do you have a standard and formal method of appraising executive qualities in your top men?

Training and the Law

THERE ARE NOT too many government regulations in connection with industrial training programs. Practically all laws on the subject deal with pay for the trainee. Most legal thought has been directed toward preventing the use of "cheap" labor for regular productive work by labeling these employees as "trainees."

Probably the most frequently asked question is, "Must the em-

Limited Program

Although few mills will not, anytime soon, go into executive training on so grand a scale as Johnson & Johnson, there is one area in which training is so badly needed that every mill should give it serious consideration. It is in the training of executives in the fundamentals of public relations.

Comparatively few mill executives have had instruction in public speaking, yet it is through talks they give at business luncheons and public occasions that they carry their message to the public. What these executives say and the way they say it is a major part of the mill's public relations program.

The textile industry is now spending thousands of dollars each year in promoting good public relations, while individuals in the industry, through lack of training in what to say and how to say it, are spoiling much of the good work. A special course, taking only a few hours, given by a consultant on public relations, would tell mill executives what to say. A few weeks training in public speaking would teach them how to say it. The investment required for such courses for mill executives would be money well spent.

ployee be paid while attending a mill-sponsored training class?"

The answer to this question is, "Yes," unless all of the following specifications are met:

1. The course is given outside working hours.

2. Attendance is voluntary.

3. The employee does not produce any goods or do productive work during the training period.

4. The course is not intended to make the trainee more efficient at his present job.

As an example, the Wage and Hour Division states that a mill need not pay a weaver or knitter for hours spent in a voluntary, off duty loom fixing or machine fixing class where no goods are produced for profit, but must pay for the time of a loom fixer or knitting machine fixer taking the same course. It is a question of whether or not the course is designed to teach a new skill or increase the man's skill in his own line of work.

The Wage & Hour board is now studying this problem to try to clear up such questions as "When is a course 'Mill Sponsored'?" and just how much "new material" must be in a course to permit a course to escape the requirement expressed as "4" above.

The mill need not pay for time spent in courses given by schools which are clearly not sponsored by the mill, such as correspondence schools or private colleges.

In practice, there are few courses offered by mills, except on-the-job training courses and trade training courses given during working hours, where pay is required.

Where pay is required because the training program does not meet all the specifications listed, overtime pay must also be paid if the trainee comes under the Fair Labor Standard's Act.

If a mill pays the tuition or other expenses of an employee at a college, technical school, or vocational school, the payment must be considered as remuneration to the employee and withholding taxes must be deducted. This must be done whether the mill pays the employee or the educational institution directly.

Many hosiery mills make use of trainees under the Wage and Hour Law's provisions for Student Learners. These trainees are paid a lower rate than regular employees—lower, in fact, than the legal minimum wage. In order to do this, Student-Learners must work on a part-time basis and be part of a bonafide training program. They may be paid at these lower rates only by making applications for Student-Learner certificates from the Wage and Hour Division.

Veterans may be hired for on-the-job training programs at lower than minimum wage, but they must be hired through the Veterans Administration so that they may be paid benefits under the Service Men's Readjustment Act.

Apprentices may also be hired at special low wages and under otherwise unlawful conditions, if hired under signed and approved Articles of Apprenticeship.

Textile Training

a mill survey

By IVAN YEN-TA FENG
School of Textiles
North Carolina State College

THIS IS part of a study of ten mills in the Southeast, made in an attempt to determine the extent to which this segment of the textile industry is applying the principles of Scientific Management.

THE MAJORITY of the mills visited do not take full advantage of the possibilities of a well-rounded training program to increase the efficiency of the employees. Most of the programs observed emphasize training an employee in acquiring a higher skill on a particular job. Little is done to improve his attitude toward the mill, his fellow employees, or to increase his satisfaction with his job.

For Top Management. Only one company out of the ten studied includes top management in its training program. The majority have only two levels of training—operator and supervisory. One large mill has no personnel or training department at all, training being up to the foremen. Management of this mill complains that in spite of a profit-sharing plan, operatives have not become quality or waste conscious.

The use of operator-instructors is common practice in the training of operators. Only two of the mills have a definite program of teaching instructors how to instruct. This phase of training is badly neglected in the textile industry.

Vestibule Training. Three mills use vestibule training (training in class or off the job) in addition to operator-instructors. They use this type of training because they have found it best for training which requires long study, such as fixing, and because a large group can be taught better this way than with

Setting Up a Training Program

Research. See what other mills have done. Decide which of these methods is best suited to your mill.

Objectives. The purpose of the training program should be clear to all levels of management and the employees.

Organization. Decide how the training program will be set up, who will direct it, what type of instructors will be used, and how and where instruction will be given.

Personnel. Select a well-trained man or men to conduct the program.

Costs. Decide how much can be spent on training and prepare a budget for the training department.

Reports. Set up a system of reports so that the value of the training program can be determined. No training program should be continued unless it can be shown that it is paying for itself and more.

operator-instructors and on-the-job training.

Induction Training. Most of the mills in this survey have induction training programs of short duration. During this period the employee is given a broad picture of the company operations and its history. He is also furnished with information on rules, regulations, and wage calculations. This program, which consists of interviews between the operator and the personnel director or operating supervisor, affords management an opportunity to select the man for the job and give him background information on the mill.

In these mills, the conference method of supervisory training is the common practice. Only one mill has a training committee, comprised of various members of supervision, which decides on the material to be discussed in supervisory training meetings.

One mill has a pre-supervisory training program. These programs are probably practical only in larger organizations where the normal turnover of supervisors is large enough to permit a pool of potential supervisors.

Training College Graduates. In most of the mills, the training of college graduates employs the special attention of top management. The progress the college graduate makes is followed closely, not only by the plant superintendent but by the personnel manager and the industrial relations executive.

Only one mill has a definite training schedule for its college graduates before they are given a temporary assignment. This program is designed to evaluate the possibilities of the man and discover the type of work for which he is best suited. This training of college graduates is under the direction of the vice-president in charge of manufacturing.

In one mill, the whole training program receives its stimulus directly from the president. This company has developed the most effective and comprehensive training program of the mills studied. It is clear that supervision and the executives must be sold on the idea of training before any training department can expect to see appreciable results.

Learning Curves Important. The establishment of learning curves is an important step in putting training on a scientific basis. These learning curves not only facilitate follow-up of trainees, but they also reduce the cost of training by eliminating poor operators at the early stages of training.

Training in Unionized Plants. The function of training becomes particularly important in unionized companies where promotion is made primarily on the basis of seniority. It is possible under such a procedure to promote men into positions for which they lack necessary qualifications. A comprehensive training program covering a broad field for all levels of employees will insure that each promotion will be based on higher qualifications. The spread between seniority and necessary qualifications can be narrowed.

In most of these mills, the training department falls under the jurisdiction of the department of industrial relations or the personnel department. In some of the chains, the training department in each plant is under the plant superintendent, but the programs of the local training departments are coordinated and guided by a central training staff in the main office.

Broader Training Programs Needed. There is a need for the broadening of training programs. In order to train for a better attitude among employees and supervision, top management should undertake to explain the company's aims, its financial system, sales, and research policies. Extensive modernization programs should be briefed for the benefit of the employees, thus avoiding opposition to technical changes.

As a part of the training program, new policies should be circulated to all management levels for comment. Before negotiations take place for a new union contract, top management should approach the divisional superintendents and department heads for suggestions. Preparatory training programs for responsible executive positions should be encouraged.

There should be more and better apprenticeship training programs for maintenance men. The lack of emphasis on this form of specialized training may result in a shortage of skilled journeymen.

Recent Books on Training

John Wiley & Sons: Managerial Control of Business, Improving Supervision, Foremanship and Supervision, Job Evaluation, Practical Job Evaluation, Personnel Selection (Tests and Measurement Techniques), Education and Vocation, Tests and Measurements in Industrial Education, Vocational Education for a Changing World, and Foundations of Industrial Education.

McGraw-Hill: Industrial Apprenticeship, Materials and Methods for Vocational Training, Objectives and Problems of Vocational Education, Job Evaluation and Employee Rating, Making Conference Programs Work, Principles of Personnel Testing, and Industrial Training and Testing.

Ronald Press: Personnel Handbook.

INTERESTED IN EXTRA COPIES of this article? If so, please refer to note at bottom of page 89.

MEMBERS OF TECHNICAL ADVISORY COMMITTEE of the Institute of Textile Technology meet every quarter to review and plan the Institute research program. This photograph, which was made prior to the recent annual membership meeting, shows (from left to right): Dr. J. L. Vaughn, president of ITT; Norman C. Armitage, president of Deering-Milliken Research Trust; Roger Milliken, president, Deering-Milliken Co.; L. W. Deaver, vice-president and general manager, Cherokee Textile Mills; W. J. Still, vice-president, Borden Mills; Dr. Jack Compton, technical director of ITT; Walter Regnery, chairman of the technical advisory committee and president of Joanna Cotton Mills Co.; R. H. Tuttle, director of research and quality control, Fieldcrest Mills; A. W. Bell, vice-president and general manager, American Yarn & Processing Co.; M. Earl Heard, vice-president in charge of research, West Point Mfg. Co.; J. W. Swiney, superintendent of bleachery, Fulton Bag & Cotton Mills; Howard Baetjer II, Mt. Vernon-Woodberry Mills; and T. C. Drew, director of research, Spartan Mills.

Panel Discussion on Practical

Benefits of Membership in ITT

MORE THAN 115 textile mill executives saw new developments in textile research at the Institute of Textile Technology, according to an announcement by Roger Milliken, chairman of the board of trustees, whose address opened the annual membership meeting held in January at Charlottesville, Va.

"The trustees are very enthusiastic about the progress made by the research staff during the past year," Mr. Milliken said. "This membership meeting shows that interest. It is the best that we have ever had. We expected 80 people here; we have more than 115.

The members of the Institute reviewed eleven projects which have been emphasized during the last quarter. These included the recent findings on a new source of tar-like spots on cotton fabric [page 123, TEXTILE INDUSTRIES for December, 1951] and methods of eliminating them; a completion of the project on the ITT Uniformity Analyzer [page 90, TI for June, 1949] to measure the uniformity of sliver, roving, and yarn, and the fulfillment of plans for Brush Development Company to manufacture, sell, and adequately service the machine.

The visiting mill members also heard a panel discussion on "Practical Benefits Obtained by the Mills from Membership in the Institute." The discussion was led by M. Earl Heard, vice-president in charge of research, West Point Manufacturing Company, West Point, Ga.

Participants in the round table discussions were: A. W. Bell, vice-president and general manager, American Yarn and Processing Co., Mt. Holly, N. C.; T. C. Drew, director of research, Spartan Mills, Spartanburg, S. C.; Norman E. Elsas; chairman of board, Fulton Bag & Cotton Mills, Atlanta, Ga.; Walter Regnery, president, Joanna Cotton Mills Co., Joanna, S. C.; Roger Milliken, president, Deering-Milliken Company; and R. H. Tuttle, director of research and quality control, Fieldcrest Mills, Spray, N. C.

A digest of their comments follows:

A. W. Bell: The Institute's experience in the use of the Colorimeter [Nickerson-Hunter Cotton Colorimeter described in TI for May, 1950, page 173] had convinced him of the importance of this photoelectric aid to the grading of cotton by color, and under Institute guidance his mill was able to work out a system that greatly improved the control of many varied cottons used in American Yarn & Processing Company blends and mixes.

Mr. Bell also stated that considerable dollar savings were effected through the use of the Institute "trouble-shooting" service, particularly the assistance he received in solving a problem of blue specks on knitted fabric. The standardized testing program of the company was also based on techniques from the Institute, and the reduction in non-uniformity of products resulting from this program were: non-uniformity of card

Useful Life of Tobacco Shade Cloth Tripled by New Process

The service life of cotton cloth used to shade seed beds and growing tobacco plants can be at least tripled by a process developed by the Southern Regional Research Laboratory, Bureau of Agricultural and Industrial Chemistry, in New Orleans, La., the U. S. Department of Agriculture has announced.

Pieces of test cotton fabrics prepared by this process and used to cover tobacco fields in North Florida during the past three seasons still had two to three times as much of their original strength left as did ordinary tobacco shade cloth after only one season's use, the report stated.

The weather-resistant finish responsible for this increased life is lead-chromate, an inorganic yellow pigment, which screens out the damaging rays of sunlight, one cause of the rapid deterioration of cotton in outdoor use. The basic principles developed by the Southern Laboratory for applying this treatment to shade cloth have proved to be commercially feasible, it is claimed, and the chemically processed fabric is now available for only a slight increase in cost over the untreated cloth. Since fewer replacements of the treated cloth are required, the resultant saving to tobacco growers will be substantial.

AATT Student Award Announced

In his "1951 Report on the Affairs of the AATT" presented January 9, 1952, George H. Hotte of A. M. Tenney Associates, Inc., president of the American Association of Textile Technologists, announced that an annual award in the form of a plaque will be made by the Association to one senior student who will graduate in any textile course at each of the ten textile schools accredited by the Textile Deans Council. The first awards will be made to the June, 1952, graduating classes.

Basis of the award has been worked out in cooperation with the institutes involved, he said. The determination of the recipient of this award will be in the hands of the faculties of the individual institutes, and is to be presented on the basis of the following attributes: scholarship, technical ability, industry, judgment, leadership, reliability, and ability to work with others.

sliver reduced from 17 to 11 per cent; combed sliver from 36 to 22 per cent; drawing sliver reduced from 26 to 14 per cent; roving from 46 to 28 per cent; yarn from 109 to 75 per cent.

T. C. Drew: The Institute's service enabled small and medium sized mills to gain the benefits of a fully equipped research laboratory to supplement their own. Mr. Drew stated that research was started at Spartan Mills as a result of the experience gained at the Institute, and he pointed out that twenty-five specific service jobs were performed for Spartan Mills during the past year by Dr. Jack Compton and staff, frequently as a result of telephone calls to the Institute for information on technical problems.

Walter Regnery: Knowledge gained at the Institute through discussions with staff members was credited by Mr. Regnery as the basis for his system of blending cotton by Micronaire readings [page 131, TI for January 1952]. He stated that his system was derived from ITT techniques and that the method had reduced neps and ends down considerably. Mr Regnery estimated that the research service of the Institute had saved his company three or four times the amount of dues paid, and that he believed, in the light of recent ITT discoveries, that this savings in the future would become greater each year.

R. H. Tuttle: Use of the new ITT picker lap meter [TI for December, 1950, page 102] was cited as one instance where Mr. Tuttle believed that Institute service had greatly benefited his mills. This instrument enabled the overseers to spot the pickers which were producing the best laps, as a result enabling them to do a better job, to cut down on maintenance costs, and to get better settings and speeds which gave more uniform laps and resulted in greater efficiency through the whole mill.

Roger Milliken: The address by Dr. Jack Compton on the research program was summarized by Mr. Milliken, who pointed out the importance of the uniformity and other measurements which the Institute had developed by means of special attachments to go with the Uniformity Analyzer.

Norman Elsas: The long-range effect of the Institute's academic program of training men on the graduate level is beginning to be felt in the textile industry. Mr. Elsas stressed that the ITT graduates, through close contact with the textile research program and an excellent graduate curriculum, were fully trained in research techniques and able to apply their knowledge to mill operations.

The visiting mill members also heard descriptions of various phases of the Institute research, academic, and information program by Dr. J. L. Vaughan, president of the Institute; Dr. Jack Compton, technical director; T. L. W. Bailey, Jr., assistant technical director; Dr. L. H. Hance, chairman of the Committee on Academic studies; C. M. Bowden, editor of the Institute's *Textile Technology Digest;* and Miss Mary E. Emerson, librarian.

EXCLUSIVE

made in a knitting mill shop . . . .

A Handy Tool for Cutting Belts

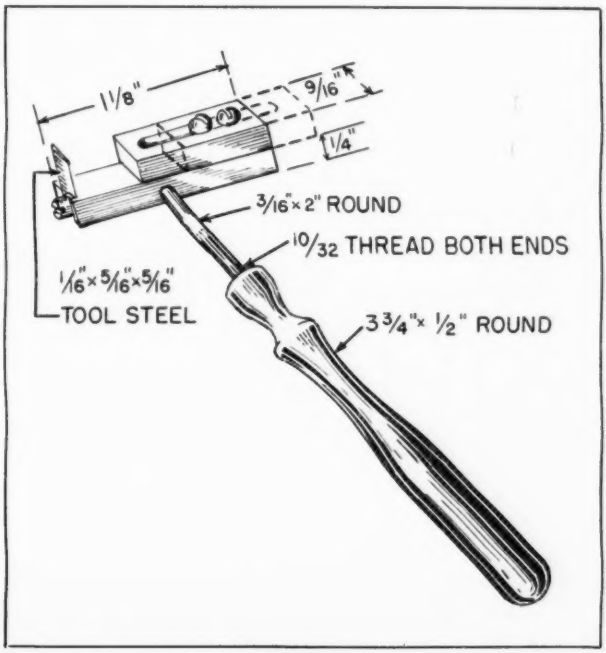
By ERNEST BRIDGES

A BELT cutting tool is a useful addition to any mill mechanic's fixing equipment. Frequently it is necessary to cut leather belting into strips of various widths and lengths and it is difficult to cut such strips with a sharp knife and keep them uniform in width. The device shown in the accompanying illustrations was made in a knitting mill shop and has proved its value on numerous occasions.

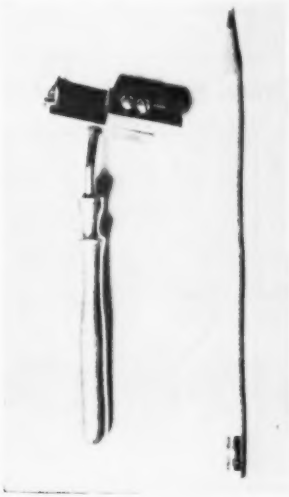
The belt slitter can be made of a few pieces of scrap cold rolled steel, three screws, and a piece of tool steel. The handle is ½" round and 3¾" long; the body is ¼" x 9/16" x 1⅛". The adjustable spacer is ¼" x 9/16" x ⅝"; the cutting blade is made from 1/16" x 5/16" x ⅝" tool steel hardened and ground. The handle is attached to the cutter with 3/16" x 2" round stock threaded 10/32 on both ends. The handle and body is drilled and tapped 10/32, and the threaded piece is bent as desired.

The slitter can be used by clamping the end of a piece of belt in a vise (slit slightly to start), and after setting the adjustable spacer to desired width, pull the slitter, or place body of slitter in a vise and pull the belt through the cutter.

This useful device may not be needed every day, but when it is needed, the job can be done quickly and neatly. When you need a special tool for any job, try to buy it. If you can't buy it, make it. Someone has to make the first one.



SIZE OF THE CUTTER is apparent from the photograph below. Note the ordinary pencil at the right beside the device. Construction details are given in the sketch at the left for the benefit of those interested in making the slitter in mill machine shops.

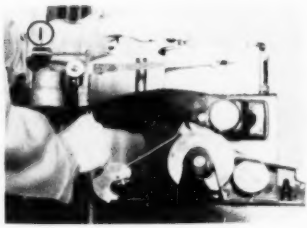


EXCLUSIVE

Tests Reveal

First Shift Assistant Overseer

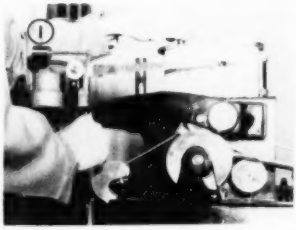
1



SINCE the first shift assistant overseer has more help than any of the other assistant overseers, most of the planned maintenance program is his responsibility. Each day he tests, on an evenness tester, sliver from four drawing deliveries. If sliver variation is found to exceed 20%, on any delivery, rolls on that frame are buffed and the delivery reset. At the same time, the frame is checked for worn or loose parts which could be causing poor work. We use a Saco-Lowell sliver tester to determine variation, but many mills are now using, with considerable success, the electronic evenness testers. This is a most important phase of the program. Unevenness in sliver means ultimate unevenness in yarn, and it is in good drawing that many later flaws can be avoided.

Second Shift Assistant Overseer

2



CARD SLIVER is tested by the second shift assistant overseer. He also uses the Saco-Lowell sliver tester for this job, and he tests the sliver from four cards every day. If variation is found to exceed 15% on any card, it is ground, reset, and generally repaired until the variation is brought within standard limits. Since card sliver represents the first point at which simple evenness tests may be run in the mill, the evenness of the sliver from the card is a basic factor in even yarn. No matter how well buffed and set the drawing rolls may be, they cannot turn out even sliver if uneven sliver is fed into them. We feel that accurate and frequent checks on card settings pay off through the whole process.

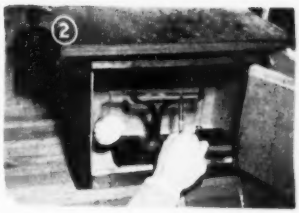
Third Shift Assistant Overseer

3

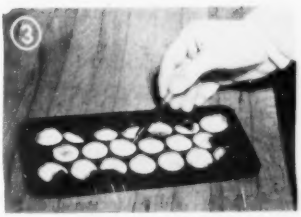
THE THIRD SHIFT assistant overseer has less time than either of the others, but his part of the testing program consists of preparing and boarding yarn samples for grading tests. Grading is done in accordance with the A.S.T.M. Standard Grading Charts. Grading the yarn shows us whether or not our testing for maintenance is doing the job it is designed to do. After all, it is in the quality of the finished yarn that the advantages of planned maintenance show up. Records are kept to show yarn quality, and these are compared with the other records kept so that any flaws or any improvement in quality may be traced to their origin, and we may profit from our assembled data. This planned maintenance has proved profitable.

Card Maintenance Needs

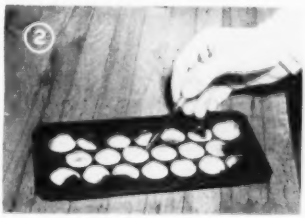
By GUY GLENN



WEIGHT of roving is another factor checked by the first shift assistant overseer. Each day he takes eight samples of roving from each size roving being made and weighs these on a balance scale in a testing room alongside the card room. Records of these weights are kept and are plotted on graphs to give a clear picture of the variation of the roving in grains.



NEP counts are also handled by the first shift assistant overseer. Once every month he counts nep from the web of all cards. The average count is obtained by taking a count from each selvage and three counts from the middle of the web. A copy of the recorded results is given to each of the card grinders to stimulate competition in accurate card setting.



ANY SPARE time available on the second shift is used in helping make the nep count. The second shift assistant overseer takes up where the first shift man left off, continuing the nep count and recording the results as the time is available. The nep count at our mill has been kept remarkably low, even though much of the 1950 crop we are now using has not been the best.

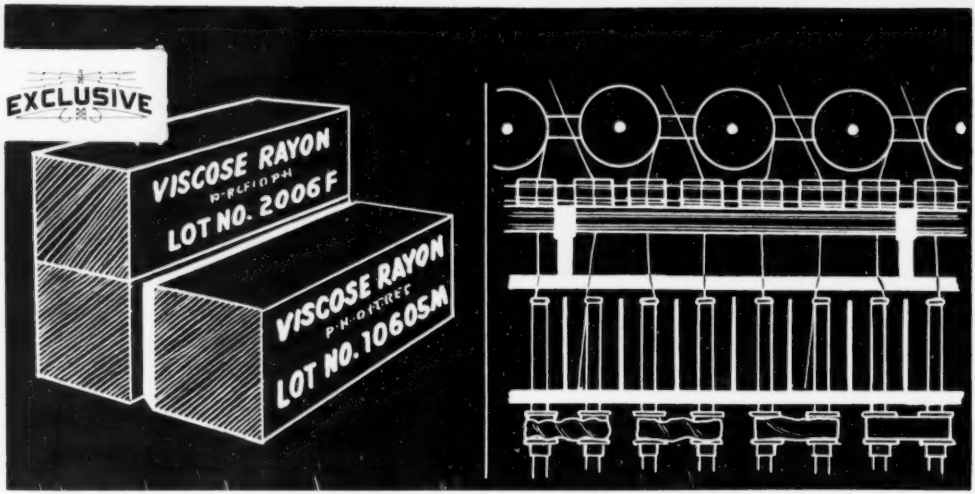
5 *Follow-Up is essential*

FOLLOW-UP is the second phase of the program. No matter how much testing is done and how many records are kept, nothing of value is accomplished until the information gained is put to use. Whenever the nep count, the evenness of the sliver, or the weight of the strips is found to vary from standard, the cause of the trouble is found and the necessary maintenance work is done. The follow-up consists primarily of testing, after the maintenance work is done, to make sure the work has been done properly. This follow-up is automatically handled by the assistant overseers in their regular test program.

Card Grinders—all shifts

4

CARD GRINDERS grind and reset three cards each day. The cards selected are those which the tests, run by the second shift assistant overseer, indicate are in need of service. If tests show that no card especially needs grinding, the three cards which have not been ground for the longest time are selected. After the cards are ground, they are put back in service and samples are taken from ten flats from each of the three cards. These strips are weighed to see if good fiber is being taken out in the strips. A standard weight has been determined for use in our mill, and if flat strips weigh more than this standard, we know good fibers are being wasted. Cards are adjusted until strip weights are brought to standard.



MIXED LOTS OF RAYON cause subsequent difficulties in dyeing. Uneven colors produce barre marks and off-shades, particularly in solid color fabrics. Many mills are familiar with the troubles caused by mixing different lots of staple rayon; however the same rule applies to filament yarns. Running two or more shuttles on the same color helps prevent uneven shades in solid color fabrics. Different lots of rayon and different batches should not be mixed.

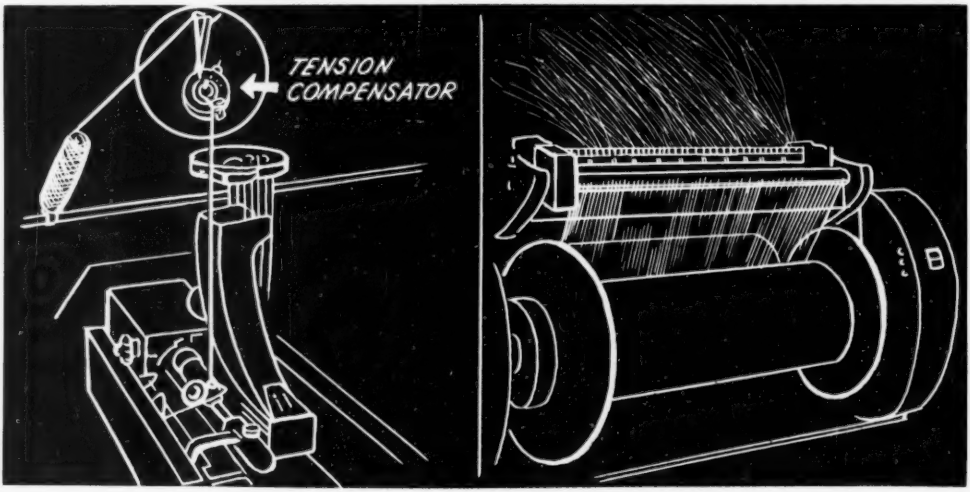
SLACK BANDS ON TWISTERS wreak havoc in making filament rayon combination yarns. Uniform tension on all driving bands is a must; tension is also important in delivering the yarn which forms the nubs in ratine type yarns. Shaded filling in the cloth may be caused by over- or under-twist. Control of static and ballooning are of especial importance in preventing abraded yarn in the twisting operations. No knots should be permitted in ratine or boucle yarns.

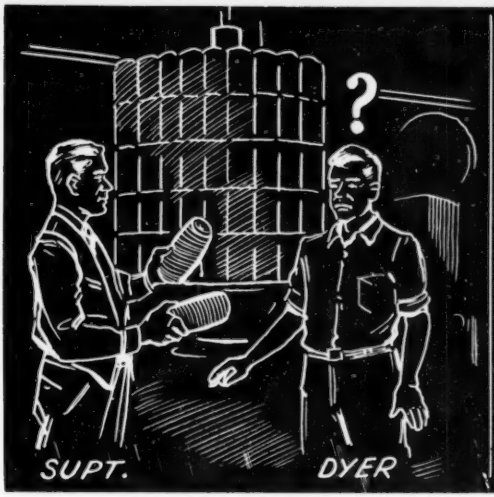
Processing Filament Rayon Yarns

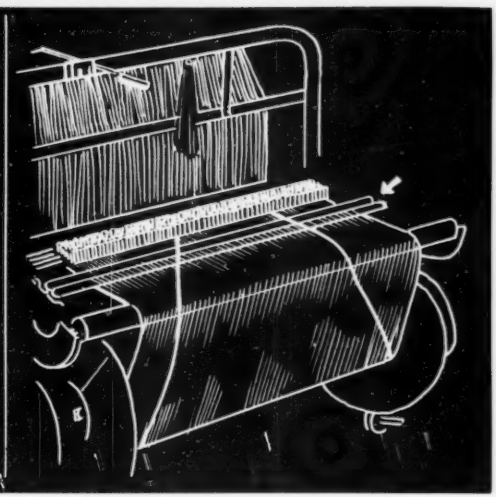
Staff Prepared

PRECISION-WOUND QUILLS are essential to prevent slough-offs and slack filling. Tension compensators on yarn at quilling operation are of especial value on all filament yarns. Many yards of spoiled fabric may be traced to careless practices in quilling. Tender yarn, shiners, and many other irregularities may be avoided by placing adequate emphasis on the importance of good practices in all winding, twisting, and quilling operations.

STATIC ELECTRICITY in warping can present a major problem. Actual disturbances created in filament rayon warps are caused by a severe electrostatic field. Each end of rayon is repelled from adjacent ends as a result of charges accumulated from friction. Application of static neutralizers (both chemical and mechanical) help prevent static build-up and also dissipate accumulated charges. Control of static helps in preventing abraded yarn.







DYERS CAN'T DO THE IMPOSSIBLE. After defects are made or trouble occurs in the work, don't expect the dyers to "cover up." In making ratine and boucle yarns the binder should be made of the same material as the core yarn, otherwise the combination seldom produces a uniform shade when used in solid color fabrics. Light streaks may show up in the dyed packages and in the finished fabric unless the yarn is made of one kind of fiber.

WARP THREADS SHOULD BE STRAIGHT with no crossovers which may cause chafing, broken filaments, and broken threads. Equal tension is important for all threads in the warp. The type of lease rods used often affects filament yarns. Some lease rods in use today are chromium plated; others are made of brass or other suitable material with smooth finish which does not snag, stain, or mark the rayon yarns used in fine fabrics.

Requires Attention to Details

Ratine and boucle yarns present unique problems

SHUTTLE CARE IS IMPORTANT in weaving fine quality filament yarn fabrics. Nail polish may be used effectively in some instances to glaze cuts or rough places on shuttles, thereby removing a common cause of snagged yarn and ruptured filaments. The use of nail polish is usually confined to minor "touch-up" jobs prior to a complete shuttle overhaul. Many weavers keep a bottle of nail polish handy for limited application on cut or nicked shuttles.

SUET IS EFFECTIVE as a shuttle polishing and lubricating agent. Wax also may be used to provide a smooth slick finish on the shuttle to prevent cuts, burrs, nicks, and scuffed places which could snag or abrade the delicate filaments of the yarn. Veteran weavers often keep a supply of suet handy for occasional application to the shuttles, especially for use on new shuttles. Adequate care and maintenance of shuttles saves many headaches in weaving.

Industry's Anthrax Incident

Majority of cases develop in carpet mills where coarse wools are utilized. Early diagnosis and prompt treatment are essential.

ANTHRAX is primarily a disease of cattle and is transmitted to man by contaminated hides, hair, and wool. It is caused by a microorganism which can be identified under the microscope and belongs to a family of spore-forming bacilli. In cattle it produces death by blood poisoning. In man the disease takes several forms, the skin or cutaneous form being the most common, resulting in death by blood poisoning if left untreated.

Symptoms of Anthrax. In man, it is believed that the organism gains a foot-hold in the skin through an insignificant cut or scratch. At the end of a few days, called the incubation period, a typical lesion develops.

At first there is a pimple; then a small blister is formed on the top of it. This is surrounded by a slightly reddened area. There is no pain, but it itches. At this point the patient is apt to squeeze it, a very hazardous undertaking because it precipitates spreading of the infection. No pus will be obtained upon squeezing, but there will be a small amount of clear fluid exuded from the pimple. This fluid contains millions of anthrax bacilli.

In a few days the blister breaks down and a crater is formed, the center of which becomes black. This blackened area is dead skin, killed by the poisons liberated by the anthrax bacillus, and more blisters are formed around the edges of the crater. At this stage there is a slight swelling around the base of the blister.

By this time, the patient is apt to complain that he doesn't feel well. He may have a fever, headache, and chilly sensations.

The locations of these anthrax lesions are usually on exposed portions of the body. When the lesion is above the nipple line there is apt to be such a rapid spread of the swelling that within 24 hours the swollen face and head appear to merge with the chest, with little or no neck outline visible. At this stage, treatment is exceedingly difficult. Absorption of penicillin is impeded; respirations become rapid and labored; toxicity increases; and a vicious cycle starts which, if not immediately broken up, will be fatal.

Occasionally the lesion will develop in a most unexposed portion of the body.

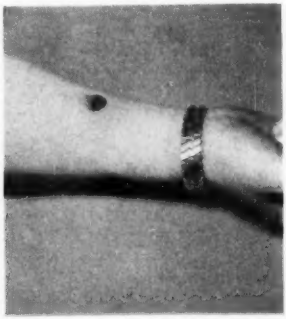
Complications such as menengitis or pneumonia may develop. Local complications and permanent disability are rare; but one man ended up with a disability of the shoulder due to scar formation of the chest muscles, which cost the company $5,000.00

Spore-Former. The anthrax organism belongs to a group of spore-formers of which lock-jaw and gas gangrene are members. This means that when environmental conditions for its growth and propagation are unfavorable, it will change its shape to a round globular organism, highly resistant to temperature changes and to bacteriological chemicals.

It is the spore form which is pres-

Abstract of paper presented at the annual meeting of the National Safety Council.

ANTHRAX LESION ON ARM. How an anthrax lesion develops is illustrated by these photos of one patient's arm. Left, very early lesion; center, 48 hours later; right, three weeks later.



Rate Up

By DR. ROGER CONANT
Plant Surgeon, Mohawk Carpet Mills, Inc.

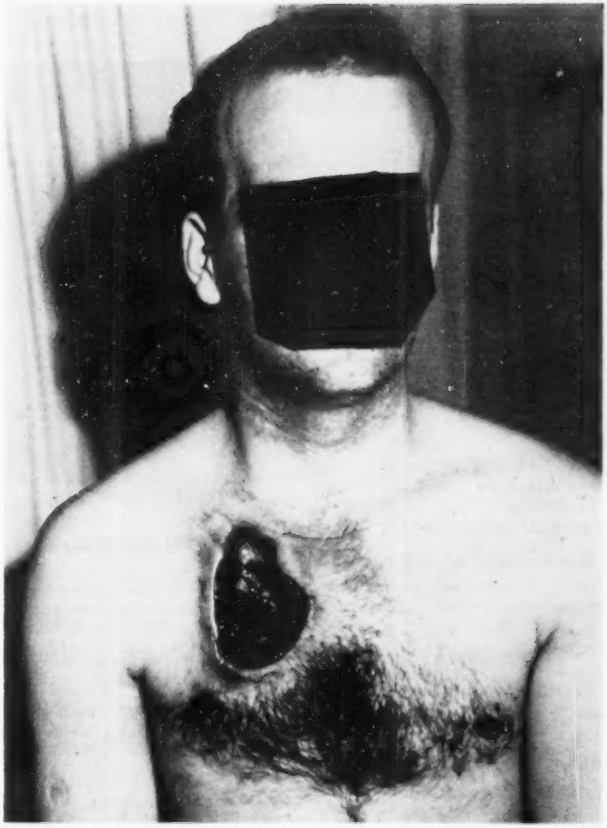
ent in contaminated wool, goat hair, bristles, hides and skins, which, under favorable conditions of moisture and body temperature, will change back to its vegetative or bacillary form and produce the disease.

Most Prevalent in Carpet Mills. The Carpet Industry contributes by far the majority of anthrax cases which occur in this country, and the incident rate for the past 10 years has increased threefold. The industry uses coarse wools obtained mainly from the primitive areas of the world, such as North Africa, India, Pakistan, and Western Asia.

One infected carcass can contaminate a whole shipment of wool. One doctor treated a case of anthrax in 1930 in which the patient told him that the lesion developed at the site of a scratch, sustained on the wire fastening the consular certificate to the bale of wool.

Treatment. Since 1943, at Mohawk Carpet Mills, 46 cases of anthrax developed and all were treated without a fatality.

Penicillin in large amounts given hypodermically and intravenously is administered so that the patient will receive upwards of 1,000,000 U of penicillin the first 24 hours, by vein. This is continued until the second day and longer if necessary. Second, wet penicillin packs 1:3000 solution are applied continuously to the lesion. There is no further local treatment used. Needling, incision and drainage, cauterizing and manipulation



SEVERE DESTRUCTION OF SKIN and underlying tissues, shown here, was caused by anthrax. Lesion was healing, however, when this photo was made.

What Employees Can Do to Prevent Anthrax

► Report all cuts, scratches, abrasions or sores promptly to the foreman and doctor or dispensary attendant for treatment. No employee with any such lesion should handle unscoured wool unless the wound is carefully bandaged by a dispensary attendant.

► Wash the face, neck, arms, and hands before leaving the mill. Hot water, liquid soap, nail brushes, and paper towels should be provided.

► Do not take lunch boxes in the working area of the picker house and do not eat while at work on the picker house floor or in the bins. Wash face and hands before eating.

► Wear cotton trousers, shirts, gloves, and caps on dusty operations. Shirt sleeves should not be rolled up. Such clothing should be laundered at least once a week, to prevent a build-up on contamination.

► Wear approved respirators if engaged in handling or sorting unscoured or scoured wool.

Flameproof Dynel-Saran Drapery Fabric

In cooperation with the United States Navy, the Lumite Division of the Chicopee Manufacturing Corporation has developed a new flameproof drapery fabric for wardrooms, staterooms, and portholes of surface ships and submarines.

This woven synthetic fabric is reported to be a type of momie cloth, made with a dynel warp and spun saran filling. It melts but does not support combustion, according to the makers.

The cloth is washable, easy to maintain, sturdy and durable, with a pebbly texture. Dark green is the color utilized for surface ships and pearl gray for submarines. Other weaves and colors have been tentatively selected for procurement by the Navy.

of the wound are to be condemned.

The usual hospital stay has been 7 to 10 days and the lost time from work averages about 2½ weeks. The average hospital cost exclusive of medical care amounts to $200.00.

Permanent disability is mainly due to facial disfigurement and contraction of scar tissue around the lesion. Such contraction is infrequent.

Washing and Scouring Procedure. The procedure of washing and scouring at Mohawk Carpet Mills since August 1950 is as follows:

a. Three successive washings in soda ash with a pH 10-11 at 120-130 F.

b. Two successive rinses, first—110-120 for 1¼ minutes, second—warm water for 1¼ minutes..

c. Drying in hot air for 3¼ minutes at a temperature 82-260 F. During this drying period the wool is exposed for 1 minute at a temperature of 194-260 F. We feel that this high temperature is an important factor in lowering our incident rate since that date.

In 1945, one million out of a population of five million sheep in Iran died of anthrax. This report did not come to the attention of the public until 1947.* Since that time, two articles have emanated from the United States Public Health Service, one entitled "Heat Resistance Studies with Spores of Bacillus Anthracis," by Schneiter and Kolb in 1948, and "A Report of Industrial Anthrax in the United States," Wolff and Heimann in January 1951.

No Department Safe. Although the frequency of anthrax is greatest in the picker house, no department can be considered a 100 per cent safe area.

Plant construction plays a definite role in plant hygiene. All floors, walls, elevators, and stairways should be of such construction that they can be readily cleaned by wet sweeping or vacuum cleaning. Dry sweeping should be prohibited. Recently we have used a method of sterilizing walls, pillars, staircases, pipes, etc., by spraying an antiseptic paint on these areas at regular intervals and actually burying and killing the bacilli and spores on contact.

What Mills Can Do to Prevent Anthrax

► Isolate all pre-scouring operations to prevent cross contamination of other parts of the mill. This means that all trucks and dollies used in the department should not be used in handling the washed and disinfected wool.

► Sterilize all burlap wrappings before re-use..

► Provide adequate ventilation of all dusty procedures: either vacuum type with wet sludge receptacle, or exhaust to the outside air so that dust does not re-enter the mill.

► Prevent "build ups" of local areas of high bacterial concentration which may develop along the processing line and spread infection to relatively clean unwashed wool, or even to the finished product itself.

► Sterilize all dust, dirt, and lint recovered in the pre-wash operation before disposing of it.

► Provide separate lockers or places for hanging up street and work clothes.

► Enforce washing of face, neck, arms, and hands before leaving mill. Hot water, liquid soap, nail brushes, and paper towels should be provided.

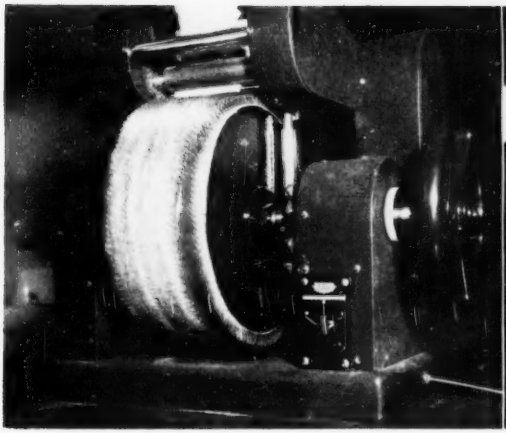
► Do not permit lunch boxes in working area of picker house and do not permit eating while employees are at work on picker house floor or in the bins. Enforce washing of face and hands before eating.

► Furnish approved respirators for all employees engaged in handling or sorting unscoured or scoured wool.

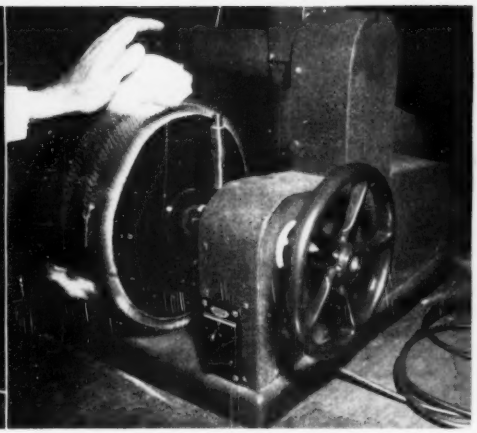
Medical Control of Anthrax

Medical Control consists of the prompt treatment of all cuts, scratches, abrasions or sores by competent medical personnel. In all cases of infection where anthrax is suspected, smears of the lesion should be taken, and an immediate preliminary report obtained. If the preliminary report is "suspicious of anthrax" the patient is hospitalized, a culture taken, and treatment instituted without delay.

* DELPY, L. P. and KAWEK, M., "Anthrax in Animals and Man," Archives Inst. d'Hessarek, Teheran, 1946, 4:3 (Abst. Bull. Hyg., 1947, 22:117).



FEEDING SAMPLE of cotton to the mechanical cotton fiber blender



REMOVING SAMPLE. The cotton bat is rolled off surface of cylinder by hand.

Department of Agriculture develops

Mechanical Cotton Fiber Blender

to aid in preparing samples for testing

COGNIZANT of the fact that increasing acceptance by the textile industry of laboratory methods for testing or measuring the physical properties of cotton fibers has created a need for a rapid and effective method of blending and preparing samples for obtaining dependable results, technologists of the Cotton Branch, Production and Marketing Administration, U. S. Department of Agriculture, constructed and tested several types of mechanical blenders.

Each machine was evaluated in terms of effectiveness in blending the fibers, extent of fiber damage, and the time and effort required to produce a satisfactory blend.

A machine designed for feeding a sample of cotton onto the surface of a wire-clothed cylinder to produce a bat in which the fibers are distributed at random in relatively thin layers was found to be most desirable. A brief description of the design and operation of a blending machine based on this method follows.

The principal part of the motor-driven mechanical blender (see photos and sketches) consists of an adjustable feed plate in combination with a fluted feed roll for feeding a cotton sample to a rotary blending cylinder covered with stripper wire clothing. The feed plate extends under the feed roll, its nose projecting toward the blending cylinder.

The feed plate is made up of two parts, the feed plate proper and the extension plate hinged to the bottom of the feed plate. The extension plate, which is closely fitted to both the bottom surface, or face, of the feed plate and to the "nose" of the feed plate, is the means provided for adjusting the feed mechanism for blending short staple cotton or long staple cotton.

A single adjustment of the position of the hinged extension plate is all that is required to change the setting of the blender for processing either cotton up to 1-inch staple length, or cotton longer than 1 inch. Altering the position of this hinged plate for processing short or long staple cotton also adjusts the respective position of a set of cams, which, in turn, control the clearance between the feed mechanism and the blending cylinder required for proper delivery and collection of the cotton fibers during blending.

The surface speed ratio of the

Plans Proposed for States to Build Plants for Industrial Use

Enactment of state laws providing for the creation of state agencies empowered to issue securities for the financing of new plants for lease to private industries on a self-liquidating basis has been recommended by the governors of Massachusetts and Rhode Island to their respective state legislatures.

The proposed plans are reported to differ significantly from industrial plant financing schemes of several other states, including Alabama, Kentucky, Mississippi, and Tennessee, in that financing would be handled by state-sponsored agencies rather than at the municipal level; payments in lieu of property taxes would be made to municipalities on the plant facilities, and exemption from federal income taxes would not be sought for bonds or other securities issued to finance the construction.

These changes from the plans of the southern states are said to be intended to overcome objections expressed by investment bankers to the use of tax-exempt municipal credit for the financing of industrial plant facilities. Besides questioning the soundness of directly or indirectly extending the use of municipal credit into such fields, investment bankers have warned that the practice might lead to intensified pressure for abolition of tax exemption for all state and municipal securities.

In his annual message to the Rhode Island legislature, the governor said he found "no difficulty in reconciling such 'a lively experiment' with sound principles of government. Rhode Island is a long established state, and many of our industrial plants are outmoded, even though they may retain certain marginal economic usefulness.

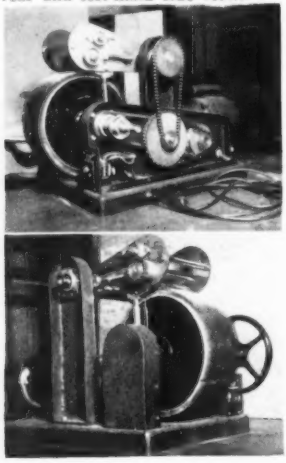
"In this and other states, government has helped to provide public housing for its citizens without jeopardizing our system of private enterprise. I see no reason to believe we will injure Rhode Island business if we lend our aid to provide a place for our people to work as well as a place for them to live." Asserting that his proposal "means war," the Rhode Island governor declared that "it is the first shot in an economic counterattack against the raids being made on our industries by certain states."

feed roll to the wire-clothed blending cylinder is approximately 1 to 135. In effect, the fibers in each inch length of bulk cotton released by the feed roll will be distributed at various positions along 135 inches of the periphery of the blending cylinder. Maximum blending of a sample of cotton without appreciable damage of the fibers, can be obtained by passing the cotton through the blender three times, it is claimed.

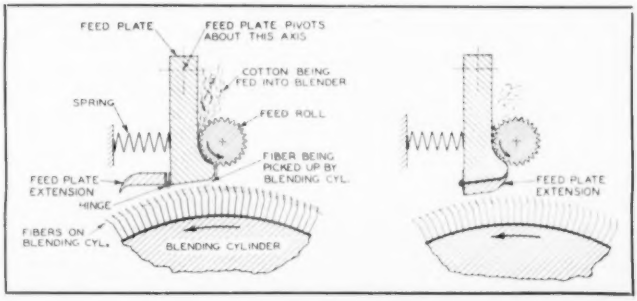
The machine was designed to handle a cotton sample weighing 10 grams. This weight of cotton, when blended, will under normal circumstances provide enough specimens for all of the present conventional laboratory fiber tests. The time required to machine-blend four 10-gram samples of cotton is approximately 1 hour. A laboratory technician, using the conventional hand-made sliver method of blending a test sample, will require at least 10 times as long to prepare an equal quantity of cotton, the announcement said.

Information concerning the construction of the mechanical cotton fiber blender can be obtained from the Cotton Branch, Production and Marketing Administration, U. S. Department of Agriculture.

ASSEMBLY DETAILS of the mechanical cotton fiber blender are shown in these photos. Top, front and right-hand side view; bottom, rear and left-hand side view.



RELATIVE POSITIONS OF FEED PLATE, feed-plate extension, feed roll, and blending cylinder are shown in these diagrammatic sketches. Sketch at left shows machine adjusted for short staple cotton. Right, adjustment for long staple cotton. Note that entire feed mechanism has been raised so that while the feed-plate extension is now between the feed plate and the blending cylinder, the space between the feed mechanism and the blending cylinder remains the same.



15TH ANNUAL HOSIERY INDUSTRY CONFERENCE at the Waldorf-Astoria in New York, Jan. 31-Feb. 1.

Hosiery Men Study Cure for Sick Business

"Know your costs; don't sell without a profit; and don't make goods you can't sell."—Rubin of Gotham

Staff Report

THE HOSIERY industry, whose business has been termed "stinking" by industry leaders, held a series of regional meetings and then discussed the matter in executive session in New York.

Upshot of the entire program was to take action which would remedy the situation immediately and to make studies and recommendations to correct the odor of hosiery business for the long pull.

The occasion was the 15th Hosiery Industry Conference on the advanced dates of January 31-February 1 (previously set for later in the year but held earlier because of poor business).

Know Your Costs. Emphasis at the meeting was placed on the value of a mill knowing its costs, the implication being that though the industry understands the computation of direct labor and the more obvious costs, it does not recognize many of the other factors which affect the cost of operations. To serve this end a cartoon-type presentation on elementary basic costs was given by F. S. Fernstrom of Ernst & Ernst. As a further aid, the National Association of Hosiery Manufacturers will present the same type of information in brochure form in the near future.

Basic Cure for Industry Illness. Although the preliminary discussions were in executive session, Samuel F. Rubin of Gotham Hosiery and chairman of the board of the National Association summed up the forum as follows: (1) Know your costs, (2) don't sell without a profit, and (3) don't make goods you can't sell. Those three points, according to the concensus, will make for better business.

Suggestions from Industry. The various suggestions to remedy the business situation, as made by industry members, fell into three categories: (1) Control of some type, (2) general plan for promotion leading to expanded consumption of hosiery, and (3) voluntary individual action on the part of the various units of the industry.

Immediate Action by Industry. The task committee which studied all of the suggestions reported that in so far as immediate correction was concerned, nothing could be accomplished except by means of individual action on the part of the hosiery producers, the recommendation being that each manufacturer review his costs and undertake to conduct his business on a sane, sound, and profitable basis.

Long Range Action by Industry. To carry out the long range program, the task committee recommended the following:

That an economic study committee for the hosiery industry be set up by the NAHM in cooperation with other interested associations, the duties of which committee will be to study and evaluate the various suggestions offered during the conference, and to develop and recommend sound practices and procedures which will improve and make more stable the economy of the industry.

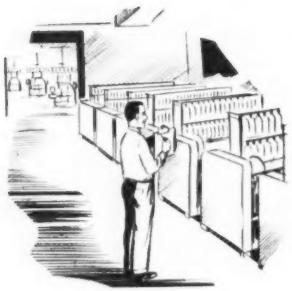
Specifically the committee is to be charged with: the collection and study of statistical data dealing with production and hourly earnings; advisability of making a survey of knitting equipment; fringe-benefit practices; possibilities of expanding foreign markets; protection of American-made hosiery from misrepresentation in foreign markets; and improved employer-employee relations.

During the conference a memorial session was held for Earl Constantine, late president of the National Association of Hosiery Manufacturers; industry members and association heads paid high tribute for his cooperative efforts in behalf of the hosiery industry.

EXCLUSIVE

Appraisals

. . . the WHY and HOW



By H. H. WALKER and T. O. OTT, Jr.
Lockwood Greene Engineers, Inc.

THERE ARE many kinds of appraisals—from a brief inspection and condensed report giving total values only, to a detailed schedule and valuation of every item in the plant. Although both types serve special purposes, the majority of appraisals are in between these extremes. In the average appraisal major items are listed in enough detail for identification; minor equipment is included by groups of similar items, and unnecessary detail is omitted.

In brief, an appraisal is a valuation of a property based on a careful inspection and inventory taken in the field by the appraisers giving the reproduction cost new, the amount of accumulated depreciation, and the remaining value of a property.

Valuations cannot be made properly by amateurs or by routine mechanical methods, because value itself is a highly complex idea. The science of valuation is analytical to a marked extent and demands sound technical knowledge and a clear understanding of the fundamentals involved in each case.

A plant executive should engage a reliable appraisal firm and depend on it to give him competent advice concerning his appraisal problems. The executive should understand the uses of appraisals in the field of insurance, valuation, taxation, refinancing, purchase or lease of property, mergers or consolidations, cost accounting, settlement of estates, condemnation of property, and patent valuation.

The rapid rise in the cost of buildings, machinery, and equipment of all kinds makes it essential to reappraise a property at more frequent intervals than was the practice fifteen to twenty years ago, when prices were fairly stable. Even a period as short as a year wherein prices soar makes an appraisal out of date.

Today, appraisals are essential for efficient management. An appraisal presents facts and values which management can analyze and use in connection with its policy making functions.

The principal uses of appraisals are as follows:

Insurance Appraisals

Business men frequently request appraisals for insurance purposes. For insurance appraisals some executives simply arrive at a rough idea of the property values from their plant accounts and buy the insurance on this basis. In such instances they do not realize that they assume a great responsibility when they insure property. This procedure may seem satisfactory until they have a fire loss and then they learn that these things have not been provided for:

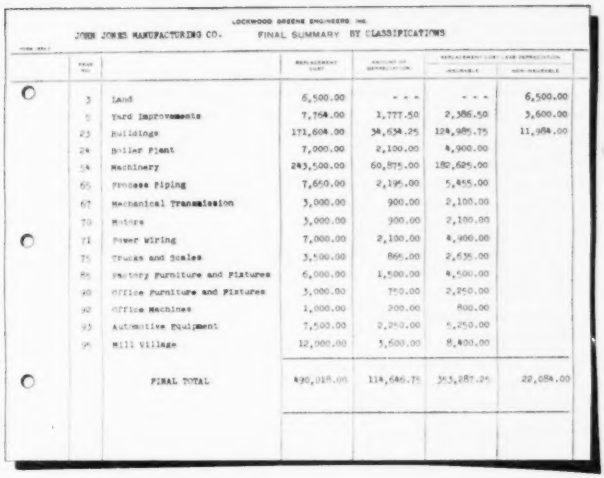
(1) They did not carry enough insurance to cover their property under the co-insurance clause.

(2) They did not have a plant record from which they could submit an inventory of items destroyed.

(3) They had no facts upon which to prove the amount of their loss.

The result is that they are

THE FINISHED APPRAISAL shows in total and in detail the present day replacement cost, the accumulated depreciation, and the replacement cost less depreciation, or the present value of the plant. Reproduced here is a final summary by classification.



LOCKWOOD GREENE ENGINEERS INC.

JOHN JONES MANUFACTURING CO. FINAL SUMMARY BY CLASSIFICATIONS

	PAGE NO.		REPLACEMENT COST	AMOUNT OF DEPRECIATION	REPLACEMENT COST LESS DEPRECIATION	
					ACCRUABLE	NON-ACCRUABLE
	3	Land	6,500.00	- - -	- - -	6,500.00
	5	Yard Improvements	7,764.00	1,777.50	2,386.50	3,600.00
	23	Buildings	171,604.00	34,634.25	124,985.75	11,984.00
	24	Boiler Plant	7,000.00	2,100.00	4,900.00	
	54	Machinery	243,500.00	60,875.00	182,625.00	
	65	Process Piping	7,650.00	2,195.00	5,455.00	
	67	Mechanical Transmission	3,000.00	900.00	2,100.00	
	70	Motors	3,000.00	900.00	2,100.00	
	71	Power Wiring	7,000.00	2,100.00	4,900.00	
	75	Trucks and Scales	3,500.00	866.00	2,634.00	
	85	Factory Furniture and Fixtures	6,000.00	1,500.00	4,500.00	
	90	Office Furniture and Fixtures	3,000.00	750.00	2,250.00	
	92	Office Machines	1,000.00	200.00	800.00	
	93	Automotive Equipment	7,500.00	2,250.00	5,250.00	
	96	Mill Village	12,000.00	3,600.00	8,400.00	
		FINAL TOTAL	490,018.00	114,646.75	365,287.25	22,084.00

forced to accept a reduced settlement of their loss.

An insurance appraisal containing the foregoing information not only enables an owner to purchase insurance economically but also furnishes him with the information that will protect his interests if fire occurs.

Insurance on Accumulated Depreciation. Within the last few years insurance underwriters have extended their policies to cover insurance on the accumulated depreciation in a plant. When desired by the owner, the insurance companies will endorse their policies to provide for this additional coverage, which is called depreciation insurance.

The result of this broader insurance coverage is that a plant now may insure the reproduction cost new of all insurable items comprising the plant property. This complete coverage is written with a one hundred per cent co-insurance clause. With this form of insurance in force it is essential that the mill management have up-to-date appraisal figures, otherwise they run a serious risk of be-

Appraisal Procedure

A TYPICAL appraisal of a textile mill is divided into the sections as shown herewith:

Land
Yard Improvements
Buildings
Boiler Plant
Machinery
Process Piping
Mechanical Transmission
Motors
Power Wiring
Trucks and Scales
Factory Furniture and Fixtures
Office Furniture and Fixtures
Office Machines
Automotive Equipment
Mill Village

Priced at Current Replacement Cost. After a careful inspection, field notes are prepared describing fully the items in each section. These are priced in the home office at prices which represent current replacement cost new. For machinery and mechanical equipment, the replacement cost includes freight, cartage, and installation expense so that the replacement cost represents their installed cost and not just the invoice price.

From the replacement cost, a deduction is made to reflect the accumulated depreciation. The present value is determined by subtracting the accumulated depreciation from the replacement cost.

The Field Group. If the mill is large and includes several manufacturing buildings containing machinery and equipment, the appraiser will assign the various parts of the work to the members of his field party. For a large appraisal one man will probably handle all construction work including yard improvements, building structures, building service equipment, and the mill village. One or more men will inspect and list all mechanical installations consisting of boiler plant, manufacturing machinery and equipment, process piping, mechanical transmission, motors, and power wiring. The remaining sections of the appraisal consisting of trucks and scales, factory furniture, office furniture, office machines, and automotive equipment will be listed by another appraiser.

The foregoing procedure will vary depending upon the size and character of the mill. If the plant is small, one man will prepare the entire report.

All items in an appraisal except yard improvements, buildings, and mill villages are booked by floors of buildings. Boiler plant machinery and equipment, manufacturing machinery and equipment, and motors are listed and priced individually. Minor equipment is listed and priced by groups of similar items, thereby avoiding unnecessary detail.

The Completed Appraisal. The finished appraisal shows in total and in detail the present day replacement cost, the accumulated depreciation, and the replacement cost less depreciation, or, the

Please turn the page

coming a co-insurer if they have a fire.

Appraisals for Income Tax Purposes

The federal income tax laws have created situations which call for special types of appraisals to assist tax payers in presenting their claims to the Internal Revenue Department. There are many cases in which the appraisal is the only means to establish the correct value of a plant and obtain the resulting benefit in taxes.

Reports that are helpful in federal tax problems include those on obsolescence, lessened value in use, depreciation and depletion and gain or loss from sale of property.

Appraisals for federal tax purposes require the appraiser to work with the taxpayer's attorney and accountant.

For Local Taxes. Some municipalities have adopted a system of appraisal for equalizing taxes; there are others which distribute taxes on the basis of valuation by inexperienced assessors, often appointed for political reasons.

Excessive assessment for local taxes is most difficult to combat. It is necessary to show either:

(1) That the property would not sell for the assessed value; or

(2) That the property is assessed on a higher basis than other similar property in the same town.

If the amount involved is large and the owner cannot settle by compromise, an appraisal should be made. This should be done in cooperation with a real estate dealer familiar with local values. His help is essential in the event of litigation.

Appraisals for Financing

In refinancing corporations or businesses planning additional financing, a valuation made by an independent authority is a great help. If the proposed financing includes the issuance of bonds or notes or any obligation secured by the physical plant, such a report is essential. It must indicate the actual, present day value of property so that the prospective purchaser of bonds or notes will know that his investment is secured by tangible real estate, buildings, machinery, and equipment on a sound conservative basis.

These reports vary from a condensed appraisal of the physical assets to a comprehensive engineering and business survey covering all questions of importance on which a banker or investor would want information.

If the financing contemplates the public sale of securities, the appraisal or business report must be made to conform to the regulations of the Securities and Exchange Commission. These regulations are stringent and hold the appraiser personally liable for any mis-statement or omission of es-

Appraisal Procedure (continued from preceding page)

present value of the plant.

The appraisal is summarized by sections and also by buildings. The building summary shows the value of each building and its contents.

A plot plan indicates the relative location of the various buildings and also the yard facilities.

The appraisal is prefaced with a transmittal letter addressed to the mill management. This letter describes the property included, explains the values in the report, and comments on the general condition of the plant and its suit-

FIELD NOTES are prepared by appraisers, describing fully the items in each section of the appraisal. Notes on the form below served as a basis for the preparation of the typed appraisal of Manufacturing Buildings at the right.

LOCKWOOD GREENE ENGINEERS INC.

MANUFACTURING BUILDINGS

	NUMBER	DESCRIPTION		REPLACEMENT COST	DEPRECIATION %	AMOUNT OF DEPRECIATION	REPLACEMENT COST LESS DEPRECIATION
○	1	Main manufacturing building, 2-story, steel framing, brick sidewalls with steel sash in openings, wooden roof decking with 20 year tar and gravel roof. (100' x 450') 90,000 sq. ft.	1930	450,000.00	40	180,000.00	270,000.00
	1	Cotton Warehouse, 1-story, steel framing, brick sidewalls and firewalls, wooden roof decking, 20 year tar and gravel roof. 6 - 100' x 50' sections 30,000 sq. ft.	1930	120,000.00	40	48,000.00	72,000.00
	1	Boiler House, 1-1/2 stories, steel framing, brick sidewalls, concrete floor and roof slab, 20 year tar and gravel roof. (30' x 60') 1,800 sq. ft.	1930	18,000.00	40	7,200.00	10,800.00
○		Waste House, 1-story, steel framing, brick walls with steel sash in openings, concrete floors and concrete slab roof decking, 20 year tar and gravel roof. (50' x 100') 5,000 sq. ft.	1940	25,000.00	20	5,000.00	20,000.00
		Office building, 1-story, brick veneer wooden frame building, hardwood floors and compisition roof including partititons and heating and lighting (60' x 40') 2,400 sq. ft.	1951	24,000.00			24,000.00
		Engineering		31,850.00		12,010.00	19,840.00
		Interest and Insurance		20,065.50		7,566.30	12,499.20
○		TOTAL - MANUFACTURING BUILDINGS		688,915.50		259,776.30	429,139.20

sential facts affecting the value or the securities.

Appraisals for Purchase or Lease of Property

Appraisals for a prospective purchaser or lessee of a property are valuable in arriving at a purchase price or rental figure. If the property is not offered at a fair market value and the amount of repair and replacement needed is high, the prospect might well consider constructing a new plant.

An appraisal for a purchaser or lessee should furnish all the information needed in order to make a correct decision about the property. If the sale of the building and land is all that is involved, the purchaser need not concern himself with profits made by the former owner. On the other hand, should he want to operate the business as a going concern, it would be wise for him to investigate the earnings, market for the product, and many other elements of importance in operating a successful business.

For Mergers and Consolidations

In cases where companies decide to combine or where one company wants to buy out another, the value of the plant or plants is important. One plant originally may have cost more than the other, but is now worth less. The sure way to show relative plant values is an appraisal by an independent authority.

A report for a merger or consolidation should show, in addition to the value of the fixed assets, the extra value which a business possesses because it has been successfully operated and is earning a good income. After the value of the physical property has been determined a study should be made of the intangibles, such as patents, trademarks, and goodwill.

An examination of the location of the plant should be made to show the labor supply, water supply, transportation facilities, climate, local and state tax laws, and similar factors which affect the value of a business.

The reports mentioned furnish a uniform basis for measuring the valuation of various properties. Such reports made by a disinterested authority are of great assistance in planning a merger or consolidation of interests.

For Cost Accounting

Appraisals serve as a sound basis for cost accounting systems. Many businesses fail because they do not have adequate cost accounting systems. This is realized by cost accountants who install these systems.

A complete property account based on a well-planned appraisal reflects the value of the property in many ways such as:

(1) Original Cost.

(2) Replacement Cost at Present Prices.

(3) Deterioration (deduction for functional and physical depreciation).

(4) Improvements (expenditures for replacements and improvements).

(5) Departmental Investments (expresses detailed condition of equipment needing replacement).

(6) Exact Description of Assets (from serial numbers, specifications, and manufacturers' names).

Information of this character cannot be secured from the books of a company and can be obtained only from an appraisal prepared especially for accounting purposes. Such a report should include a plant ledger in loose leaf form containing an individual record of each important item in the plant. The appraisal can be kept up-to-date year by year.

For Settlement of Estates

The settlement of an estate involving the ownership of a large interest in an industrial corporation presents many problems if the estate is to be settled or if a large inheritance tax is due. An appraisal of the property is essential to handle the settlement of a large estate of this character so that

(*Continued on page 214*)

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ability for the product manufactured. Special conditions affecting the value of the property are particularly described. If the appraisal is made for a special purpose, this fact is clearly brought out in the report.

The foregoing procedure describes the preparation of an appraisal for a mill property.

The time required to prepare an appraisal depends upon the size and character of the mill. If the mill occupies one large building, less time will be required than if the property is divided into four or five buildings.

An appraisal for a mill with a replacement cost of about $500,000 usually can be prepared within fifteen to twenty man-days. The time would be divided about equally between field and office work. This ratio generally will hold good for larger properties.

Cooperation with Appraiser. An appraisal requires very little help from the mill management. The plant engineer can be of particular assistance in getting the appraiser started properly. He should take the appraiser through the plant, introduce him to heads of departments, and find out what information he will need concerning motors, machinery in storage, and special machinery designed at the plant.

The mill should furnish the appraiser with the latest copy of the fire insurance map and also the land map, if land is to be included in the report. Previous appraisals should be made available, as well as the cost of buildings and machinery acquired within the past two or three years. It is not necessary to examine the records for all items.

There has been a constant increase in the cost of buildings, machinery, and equipment since 1931. The index figure of the "Engineering News Record" for building construction for 1931 was about 155. The present index figure is approximately 400, or an increase of over one hundred and fifty per cent. This increase shows the necessity for current appraisals. The usual procedure is to have an appraisal every five years with an annual revision in condensed form.

*Article 8**

EXCLUSIVE

By RAMON PARKS

Waste Control

WHY DO waste merchants or brokers ride around in fine automobiles? (They also have that prosperous look which indicates that they doubtless have plenty of money for other things, too.) Perhaps they have found the value of waste—something, we are sorry to say, that a lot of supervisors have not learned.

When we see the word "waste," we of the textile industry usually have a mental picture of waste cotton, fly, motes, card strips, card and drawing sliver, comber noils, thread, cloth waste, etc.—in other words, waste of material. This is a lone picture, but the only trouble is the picture is not complete, for there are other types of waste which can be almost, if not quite, as costly as those already mentioned. Among these other types of waste are waste of time (or a better term might be waste of manpower) and waste of machines and equipment. In our series on the responsibilities of the overseer we would like to discuss these three kinds of waste.

Waste of Material. A thorough discussion of the waste of material in a textile mill could be expanded into a whole series of articles if every phase of this subject were properly covered. Since this subject occupies only a part of a larger discussion, our treatment of the question of waste must necessarily be rather general.

Each foreman should be waste conscious. He should be thoroughly familiar with all the kinds of waste made in his department. He should have at his fingertips the amount of waste made by his department in any given period of time and should know the percentages of waste based on the total amount of material received by his department. If possible he should know the cost of his waste based on the difference in what the waste would have brought in the first grade finished goods and what the waste actually brought as waste.

In the opening, picking, and carding departments the machine settings control a large portion of the waste made, and the foreman usually knows which settings are best for the stock that he is running and for the type of product that is being manufactured. All of the machines should be checked periodically to see that the proper amount of waste is being removed from the stock.

He should, of course, be alert to prevent unnecessary waste, such as sub-standard picker laps, ends down on cards, and roving frames running too long without attention. Even though much of this waste can be put back into production, there is the added cost of handling and reprocessing, and there is evidence to support the theory that excessive running of cotton tends to increase the nep count.

As the stock moves on through the mill, the cost of the waste increases as the cost of processing is added, and in many cases the recovery value actually de-

*The first seven articles of this series appeared in the June, July, August, September, October, December 1951 and January 1952 issues, respectively. Article 1 had as its sub-title "Hiring and Training"; Article 2, "Employee Relations"; Article 3, "Cooperation"; Article 4, "Planning Your Work; Delegating Responsibility"; Article 5, "Machinery Maintenance"; Article 6, "Cost Control"; Article 7, "Quality Control."

Reprints of individual articles will not be available. However, if the demand for the entire series is large enough, it will be placed in booklet form. Write the editors if you are interested.

creases. Machine settings in the subsequent departments have much less influence on the waste made than in the cardroom, so the overseers of these departments must look for other causes.

Generally, the most expensive waste of all is that made in the weave room and the cloth room. Defects in weaving account for a large portion of this waste. As it is physically impossible for a weaver to see every inch of the cloth produced on his looms, especially where the weaver must tend a large number of automatic looms, some of these defects are unavoidable. However, constant vigilance on the part of all concerned—the weaver, the loom fixer, the secondhand, and the overseer—can materially reduce the number of such defects.

Carelessness in removing the cloth from the looms, in transporting it to the cloth room, and in handling it in the cloth room accounts for a sizable amount of waste, much of which could be prevented. Some mills require that wrapping material of some kind, such as burlap or paper, be spread under the front of the loom when removing the cloth. The rolls are wrapped and remain in the wrapping material until they are placed behind the inspection tables. This practice prevents much waste from dirt and grease which results when the rolls are unprotected.

The proper handling of waste can result in considerable savings because waste that is correctly sorted will often have a higher value. Each department should have a sufficient number of waste containers for the various kinds of waste made, all properly marked. Some mills have the containers painted in different colors to distinguish the various kinds of waste.

Although the individual overseer can do little about the final disposition of the waste material, a little hint to top management might help. In many mills—we might truthfully say, in most mills—the waste room is located in an out-of-the-way corner of a warehouse. It is dirty, is painted only after long intervals, and has only worn-out, ill-kept equipment. Even in comparatively large mills a full-time foreman is rarely ever employed in the waste department.

Mills are gradually waking up to the fact that these conditions should be remedied. In recent years an engineering firm, realizing what waste is costing the industry, has been organized to devote its entire facilities to waste control. Its first objective is, of course, waste reduction, but included in its program are plans for improved waste handling.

Waste of Manpower. One of the best ways for an overseer to demonstrate his ability as a manager of his department is his efficient use of the labor force at his disposal. At intervals, certainly not less than twice each year, he should make a careful study of his payroll and job assignments. Of course, no one in this day and age would think of trying to overwork his employees. On the other hand, at present high labor costs it is necessary that each operative have a full job.

It is not only good business that each employee be assigned a full job, but the work that he does should be essential, and it should be a task that cannot be accomplished better by some other means. For example, employees may be using hand trucks for moving beams, bales, or other heavy materials which might be transported easier and cheaper by mechanical means. Certain highly skilled operatives might have to spend too much time cleaning—work which could be done just as well by less skilled labor. A clerk might spend hours making up records or reports which no one ever reads. Certain mechanics might be engaged in making machine parts which could be bought much cheaper from regular machinery makers who are equipped to make the parts on an assembly line basis.

Certain employees might be used to empty boxes of roving or yarn into bins and then to take the material out of the bins when needed for the next process, when a better production schedule would keep the material moving smoothly from one process to another with a minimum of re-handling. Incidentally, the more that this type of textile material is handled the more likely it is to become soiled, mixed, or damaged.

We do not necessarily recommend that in every case outside engineers should be called in to determine whether job loads have been set up correctly, but there are times when this can be done profitably. Certain textile consultants have made time studies over a period of years under almost every kind of manufacturing condition and have been able to set up standard work load assignments. If the overseer is not satisfied with his present job loads, such consultants might help him materially reduce his waste of manpower.

Waste of Machines and Equipment. Waste resulting from misuse or wrong use of machinery and equipment may be a little more difficult to detect than some of the other forms of waste which we have been discussing. However, loss from this type of waste may be just as real.

One example of waste of this nature is the failure to make full packages; that is, bobbins, spools, boxes, cans, beams, etc. If, for example, your method of wage payment puts a premium on the number of doffs handled by an operative, then it might be well to consider a method of payment which makes it profitable to keep the machine running as long as possible. If the employee profits by taking off partly filled packages, it is only human nature for him to take advantage of every opportunity to do so.

Some mills have a regular schedule for checking package weights throughout the plant. Spot checks can be made at critical points, on a varied schedule, so that the operatives will not know when to expect their cans or bobbins to be weighed.

In some cases adjustments or machinery changes

(Continued on page 143)

Tar Spot Report

Exterior Tar Spot Concentration

By G. DENT MANGUM, Jr. and GEORGE S. BUCK, Jr.
Technical Department - National Cotton Council

THIS REPORT has been prepared at the direction of a research committee representing twenty cotton mills. This mill group, known as the Research Committee on Tar Spots, has completed recently a thorough five-month study of the occurrence of tar in raw cotton, from which certain definite conclusions have been drawn. These will be included in this report, following a brief history of the tar spot problem and an account of the work of the committee.

It is emphasized that this report contains the only authoritative information on the source of tar spots in raw cotton that is based on actual tests on a large quantity of cotton by a representative number of cotton processors. It is believed that the results of this work should contribute to a better understanding of the nature of this type of contamination of raw cotton.

Staff members of the National Cotton Council have acted in a secretarial and liaison capacity for the Research Committee on Tar Spots, and have prepared this report in accordance with the wishes of that research group.—The Authors.

The Nature of Tar Spots

TAR USUALLY appears in finished cotton goods as small, black, pin-head size spots which are not removed in the usual scouring and bleaching operations. Actually the spots range from about the size of a pin head down to those of such small size as to be almost invisible. Frequently, and particularly with the larger tar spots, a slub is also present in the yarn at the spot, as a result of poor drafting caused by the binding action of the tarry material on the cotton fibers.

Figs. 1, 2, and 3 are photomicrographs showing an unusually large and a somewhat smaller tar

Here is what a tarry spot does to an oxford fabric—

Photomicrographs courtesy Institute of Textile Technology

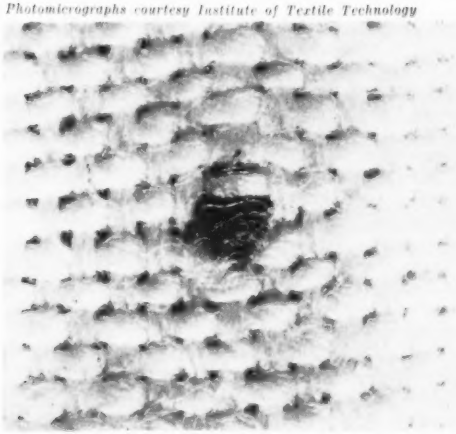

FIG. 1. Tarry spot in warp yarn of fabric.

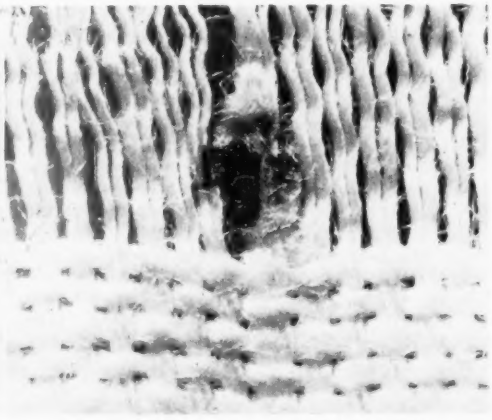

FIG. 2. Same fabric unraveled shows detail.

EXCLUSIVE

10 Times That Inside Bale

Tar accumulated in transit a major source of cotton contamination. No one cotton area to blame. Trucks and railroads both guilty.

spot in finished goods [oxford and plain fabrics].

Where Tar Spots Appear. Tar spots have been found in almost every type of cotton product, from marquisettes to sheetings. Usually, however, the spots are difficult to see in grey goods, and only show in bleached white cloth and fabric dyed in pastel shades. The spots appear in both warp and filling yarns, but tend to predominate in warp yarns.

The explanation usually given for this difference is that the spots frequently cause ends-down in the lower-twisted filling yarns and are removed before piecing-up. The spots also seem to be more prevalent in carded yarns than in combed yarns, and it has been suggested that some of them are removed in combing.

Chemical analysis of tar spots has not, up to this time, provided much useful information on the nature of this contamination. This is partly because the spots are so small, and partly because many

More tar on cotton fabric

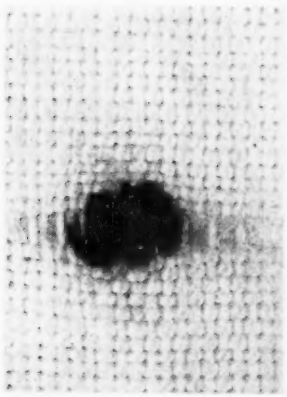

FIG. 3. Spots on another type of cotton goods.

Here's the source of some tar spots—

FIG. 4. Inside of a railroad box car used for shipping cotton. Inside of box car had been lined with tar paper, probably for shipment of grain or other products, and remained to damage the cotton in bales. Note cotton sticking to paper and to sides and floor of car. Cotton also accumulates tar when shipped by truck.

Further evidence that tarry box cars cause mills trouble—

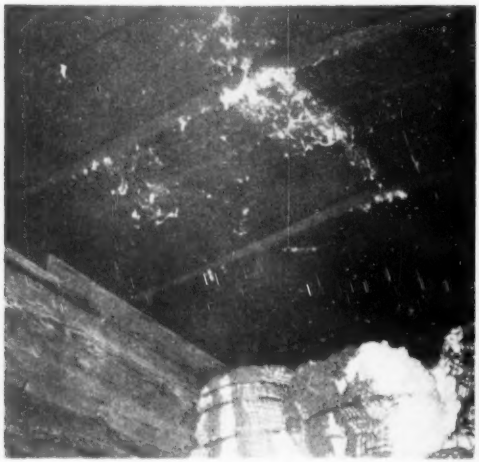

FIG. 5. Cotton in box car with ends of bales stacked against the roof. Note the cotton clinging to the tar on the roof.

FIG. 6. Box car in which cotton was shipped. This is tar on the floor. Note cotton sticking to it. Some tar adhered to bales; went through mill.

tarry materials of a petroleum or coal tar origin are chemically somewhat alike. Most of the tarry materials found in raw cotton or cotton fabrics will dissolve in petroleum solvents.

In a few cases tarry deposits have been traced by chemical analysis to specialized types of belt dressing. The Institute of Textile Technology in Charlottesville, Va., has also traced another type of spot, soluble in alcohol, to a "resin sac" which occurs naturally in the cotton burr. However, as will be shown later, the level of contamination from these sources is low relative to other sources.

Tar in Goods Expensive. It is impossible to estimate accurately the cost to mills of tar-contaminated cotton during the past few years. In a number of cases goods rejected outright because of spots have resulted in losses of thousands of dollars. Mills report that far more frequently substantial quantities of fabric must be placed in "seconds" because of tar spots, and that other types of price adjustment must be made.

In addition to claims made against goods shipped, a considerable expense is entailed in efforts to remove spots discovered in the cloth room. Still another cost is that of currying the outside of bales to remove tarry contamination on the exterior of the bales. This is a practice that started in 1948 during the bale-tie trouble. Many mills still clean the outside of each bale used, losing from one-half to two pounds of cotton in the process.

The History of Tar Spot Trouble

References in the literature on the subject of tar spots date back to 1939, and conversations with mill men indicate that some of this trouble was noted as early as 1933. A bibliography on "tar spots" is appended to this report. It is fairly apparent that recognition of tar spots has become gradually more general after 1939 or 1940, and it might also be assumed that tar spots have gradually increased in number in the last ten or fifteen years, because the sources of this type of contamination have themselves increased.

Tarred Bale Bands. In 1948, many mills voiced strong complaints about tar in raw cotton, indicating widespread difficulties with this type of contamination. During the summer of 1948, National Cotton Council staff members visited mills from Georgia to Maine in an effort to determine the cause of the trouble. Although even at that time there were some who felt other sources were important, sufficient evidence was obtained to show that the tar coating used on cotton bale bands was responsible for much of the contamination being found. In a later section of this report, in connection with the study made in the summer of 1951, additional evidence will be presented to show clearly that tarred bale bands were indeed a major source of tar spots in raw cotton.

As a result of the 1948 study on tar spots, the practice of coating bale straps with tar was discontinued, and after those remaining in the hands of ginners or compress men were exhausted, only tar-free bands were used. As a matter of fact, many of the tarred bands still in the field were processed with solvents for removal of the tar.

During 1949 and 1950 only a few mills exhibited concern on the subject of tar spots. There was some feeling that elimination of the tarred bands had entirely cor-

rected tar spot trouble, and most agreed that a substantial reduction in the occurrence of tar spots had been effected.

In the spring of 1951, however, there was apparently a recurrence of tar spots so generally throughout the industry that the serious nature of the problem could not be doubted. While in some cases mills having tar spot trouble were using 1948 loan cotton having tarred bands, many others were using clean banded cotton entirely. There was little doubt that sources other than tarred bands were responsible for the 1951 outbreak of "Alabama Measles."*

Table I

How "Tar Spots" May Get on Cotton

- Cotton fields bordering on freshly tarred roads (thrown by car or truck wheels).
- Tar treated picker sacks.
- Dropped from airplane wheels while dusting crop.
- From wagon wheels while hauling cotton to gins.
- Thrown by tractor wheels at gins.
- Loading platforms at gins, warehouses, or mills.
- Melted roofs at gins, warehouses, or mills.
- Re-used bagging and bale ties.
- Thrown up by truck or trailer wheels in hauling.
- Insides of railroad cars.
- Starter switches in fluorescent lights.
- Belt dressings, or hard greases.

"Textile Industries" Oct. 1951

The Problem in 1951

Those thoroughly familiar with the 1948 study on tar spots had no doubts on the soundness of the decision to discontinue tarring bale bands. In fact, it has been repeatedly emphasized that under no circumstances should there be a resumption of that practice. However, with most of the bands eliminated in 1951, the industry faced the problem of correcting more or less the same type of condition which presumably might stem from at least a dozen different sources. How to determine which of the sources was the major factor, and which contributed only a small percentage of the spots, was a knotty problem.

"Tar Spots Are With Us," an article appearing in the October 1951 issue of TEXTILE INDUSTRIES, listed a number of the suggested sources of tar spots. That list is shown in Table I, since it is fairly comprehensive and includes many of the potential sources of tar contamination in raw cotton.

In addition, there was the ITT suggestion that natural "resin sacs" in cotton burrs produced a tar-like substance which, under certain circumstances, was detectable in finished fabrics. There was also the suggestion that "honey dew" sometimes found in irrigated cottons, when mildewed, turns black and causes some of the trouble (Ref. 17).

Strong support for one or another source of "tar" was expressed by various individuals sincerely interested in correcting a vexing condition. The tarred picksacks were among the sources given considerable publicity, and there seems little doubt that tar shaken loose from these sacks can contaminate cotton and cause trouble for mills.

Tar on Exterior of Bale. However, if a drive to reduce tar spot damage was to be successful, it was evident that at least the principal source or sources of tar spots would have to be determined. Some pioneering work by R. Hobart Souther, chief chemist of Cone Mills Corporation, indicated strongly that a large percentage of tar spot contamination occurred on the exterior of the cotton bale, rather than uniformly throughout the cotton. Mr. Souther used a modified technique of the Institute of Textile Technology, in which he pressed a solvent-soaked filterpaper to the cotton, obtaining a transfer of the tar stain that showed a characteristic halo under ultraviolet light. After studying several hundred bales of cotton, Mr. Souther reported his findings to the Cotton Council, strongly advocating efforts be made to prevent the contamination which his work indicated cotton received in transit from the gin or warehouse to the mill.

Consultation with mills revealed that there was still a wide divergence of opinion as to whether the spots were predominately on the exterior of the bale, or distributed generally through all the cotton in the bale. Some mill men felt strongly that the spots were as numerous on the inside of the bale as on the outside.

Meeting in Charlotte last June to discuss this problem, representatives of a number of mills decided that the first point of attack should be a resolution of this exterior or interior contamination question.

The Mill Program. Some twenty mills formulated a careful testing program, in which the ITT test method would be used, and which involved not only comprehensive tests of the bales, but also inspection of the railway cars and trucks that carried cotton to each mill. Details of the testing method can be obtained from the National Cotton Council.

Essentially, however, it was the solvent transfer method of ITT, with a 100-square inch area being tested on all four sides and on the top and bottom of each bale. The bale was also laid back in the opening room and tests made at six different layers on the interior. At least fifty bales received by each mill during the July, August, September period were to be tested.

Testing Program Results

Each of the 20 mills in the program has been assigned a code letter. Mill N was prevented by a strike from completing its testing, and Mills O and P had not finished testing at the time this report was

*The term "Alabama Measles" was applied to tar spots by a mill in Alabama, probably about 1934. However, tar spots have never been shown to originate predominately in any one state or in any one part of the Cotton Belt.

Table II

Distribution Throughout the Bale of the Tar Spots Found

1	2	3	4	5			6	7	8
Mill	No. of Bales Examined	Contaminated Bales (in per cent)	Average No. of spots per cont. bale	Average No. of spots per cont. bale			Percentage of Tar Spots on outside of bale	*Average No. of spots per bale accumulated in transit	**Percentage of tar spots accumulated in transit
				Outside		Inside			
				Ends	Sides				
A	50	100	58.28	25.92	26.48	5.88	90	46.52	80
B	64	34	2.72	1.41	1.27	0.04	98	2.63	97
C	50	94	8.84	3.91	3.34	1.59	82	5.66	64
D	50	92	10.21	6.86	3.33	0.02	100—	10.17	100—
E	50	100	21.98	15.90	4.58	1.50	93	18.98	86
G	50	100	16.26	8.38	6.40	1.48	91	13.30	82
H	19	95	5.22	1.55	3.50	0.17	97	4.89	94
I	50	94	4.34	2.89	1.09	0.36	92	3.62	83
J	55	91	32.34	22.80	9.50	0.04	100—	32.26	100—
K	18	89	2.56	0.44	1.19	0.93	63	.69	27
L	45	93	4.67	2.43	2.19	0.05	99	4.57	98
M	50	90	4.49	2.11	2.36	0.02	100—	4.44	99
AVERAGES:		89					92		84

* Total number of spots outside minus the number of spots inside divided by the number of contaminated bales
** Column 7 divided by Column 4.

prepared. Mills S and T discontinued their tests after finding little or no tarry contamination in their cotton.

Mill F, unlike most of the other mills in the program, was using 1948 loan cotton with a substantial number of tarred bale bands. Therefore, the results from this mill were not tabulated with the other 12, since spots resulting from tarred bale bands could not fairly be averaged with those from other sources.

Mill Q reported its results in percentage instead of giving an actual count of tar spots. This mill tested 80 bales and found 14% of the bales to be contaminated. 80% of the tar spots found were on the exterior and 20% on the layers inside the bales. Because the actual spot count was not known, the results from mill Q could not be tabulated with the others.

Mill R carried out a complete series of tests on 50 bales, but either because its cotton was contaminated to an unusual degree, or because of differences in testing techniques, reported a far greater number of tar spots than were found by any other mill in the program. Mill R reported 12,421 spots found on the exterior of its 50 bales, and 262 spots on the interior. The spots on the outside averaged over 200 per bale. Therefore it was decided to exclude these results from those used to obtain an average figure for tar distribution in the bale.

The results of 12 of the 20 cooperating mills are summarized in Table II. These results cover tests on 601 bales. The average of percent contaminated bales found by these mills was 89%. This is in agreement with the total percentage of contaminated bales.

Table III gives further information on this point, indicating not only the high level of contamination, but also the actual count of bales with more tar found outside than inside.

Further information on the distribution of tar in bales, based on mill average, is shown in Column 5 of Table II.

The average percentage of tar spots found on the outside of the bale, from Column 6, is 92%. The percentage of tar spots found which accumulated in transit, calculated from Columns 4 and 7, is 84%.

The figure 84% is an essential fact revealed by the tar spot testing program. It means that 84% of the tar spots found resulted from contamination of the bale after it leaves the bale press. "In transit" contamination is therefore a very serious problem and a major point for attack.

All other sources, including pick sacks, resin sacs, diesel exhausts, roads

Table III

Mill	Bales Examined	Bales With More Tar Spots on Outside	Bales With More Tar Spots on Inside	Bales With No Tar
A	50	48	2	0
B	64	25	2	37
C	50	45	1	4
D	50	45	0	5
E	50	48	2	0
G	50	46	4	0
H	19	18	0	1
I	50	47	0	3
J	55	50	0	5
K	18	14	3	1
L	45	42	0	3
M	50	44	1	5

bordering fields, may contribute to tar spot trouble, but at a level of contamination about one tenth that on the bale exterior.

It is suggested that no opportunities to eliminate sources of tar prior to baling be overlooked. Even a fraction of the present level of contamination is harmful to mills, and some of the obvious sources, like tarred pick sacks, can be directly attacked. However, the first efforts should be made in that area in which the bale travels from the bale press to the mill. It is here that an immediate improvement can be accomplished —and if it is not done here, tar spots will assuredly continue to be a serious problem for mills.

Bale Bands

Mill F tested fifty bales of cotton by the standard procedure developed for the program. However, 44 of the 50 bales that this mill checked were 1948 loan cotton. Twenty-two of these bales had tarred bands, the number of these bands ranging from 3 to 8 per bale.

Mill F found no spots on the interior of any bale, but recorded a total of 797 spots on the exterior of the bales, or an average of almost 16 spots per bale. The results are summarized in the box below.

The results recorded by Mill F show clearly the influence of tarred bale bands. The bands, which contact the cotton on the sides of the bales but not on the ends, jumped the average side contamination from less than one spot per bale to nearly twelve spots per bale. This is dramatic confirmation of the fact that tarred bale bands cause serious contamination of raw cotton.

Sources of Bales Traced. The testing program was not undertaken with the thought that the actual sources of tar would be revealed. It was simply an effort to determine whether or not the principal contamination occurred during bale shipment, or before the cotton was baled. The program did include another part, in which the bales were carefully traced to the gins from which they originated. Methods of shipment were tabulated, the shippers' names, and compress and warehouse data recorded. In addition, the condition of railway cars and of truck beds which delivered the cotton to the mills was recorded after careful examination.

The reports of bale routing failed to show that any one area in the Cotton Belt produced more tarry cotton than other areas. It also failed to show that there was any significant difference between the percentage of contaminated bales resulting from truck or rail shipment. About 90% of the bales received at the mill by both rail and truck were found to be contaminated.

However, the percentage of contaminated railway cars or contaminated trucks was considerably lower than the percentage of contaminated bales. While there is evidence to indicate that both trucks and railway cars are sources of tar in the baled cotton, it is probable that there are additional sources between the gin and the mill. It is also recognized that bales reaching the mill in clean conveyances may have at some earlier point in their journey to the mill been hauled in contaminated cars or trucks.

The photographs in Figures 4, 5, and 6, clearly show the tar that is found in railway cars used for cotton shipments. It is obvious that the quantity of tar which these cars contain is sufficient to be damaging to the cotton, and the bits of cotton clinging to the tarred roof and floor of the car in Figs. 5 and 6 would seem to be

Summary of Findings by "Mill F"

Description	No.	Tar Spots Outside		Tar Inside
		Ends	Sides	
With clean-banded bales	28	73	25	0
Av. per bale		2.6	0.9	0
With Tarred Bands	22	138*	258	0
Av. per bale		6.2	11.7	0

*One of the 22 bales had over 100 spots on the ends, an unusual degree of contamination. This accounts for the higher average for tar on bale ends with the bales having tarred bands.

definite proof of one way in which the contamination occurs.

Committee Conclusions

The Research Committee on Tar Spots met in Greenville, November 23, and on the basis of its testing program, listed the following conclusions:

► 1. Tar contaminated cotton bales show a concentration of spots on the exterior surfaces. On the average more than 90% of the spots were found on the outside, both ends and sides, and less than 10% inside.

► 2. Cotton bales shipped by both rail and truck were found to be heavily contaminated with tar on the exterior surfaces. The results do not show any significant difference between the percentage of contaminated bales received by truck and those received by rail.

► 3. Inspection of railway box cars and trucks revealed in many cases the presence of tar and tarry substances on the floors, walls, or ceilings of these conveyances. In most cases the amount of this tar was sufficiently great to be regarded as a source of contamination of baled cotton. Bits of cotton adhered to the tar in railway cars and truck bodies in many cases.

► 4. A very small number of tarred bale bands was reported by the mills participating in the testing program. In the case of the one mill which used a substantial amount of 1948 cotton with tarred bands, a pronounced increase in the number of spots on the sides of the bales was observed. The results in this case dramatically illustrated the type of damage caused by tarred bale bands.

► 5. No clear seasonal pattern for the occurrence of tar spots could be developed. Several mills suggested that more difficulty was encountered during the hot summer months, but in most cases the trouble has been either continuous or intermittent with no seasonal pattern.

► 6. There was no clear evidence that contaminated cotton originated from any particular growing area, or resulted from any particular shipping route.

The final conclusions that can be drawn from the cooperative tar spot testing program are:

► A. Contamination which occurs after the cotton leaves the bale press at the gin and before the bale reaches the mill opening room is a major source of tar spot trouble at the mill.

► B. Shipment of cotton bales in railway box cars and trucks contaminated with tar results in contamination of the cotton.

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The Research Committee on Tar Spots which met at Greenville in November to consider the results of the testing program included the following: J. B. Baker, Pelzer Mills, Pelzer, S. C.; J. V. Brice, J. P. Stevens & Co., Greenville, S. C.; W. H. Buehee, J. P. Stevens & Company, Greenville, S. C.; T. C. Drew, Spartan Mills, Spartanburg, S. C.; W. H. Esslinger, M. Lowenstein & Sons, Anderson, S. C.; Henry S. Falls, J. P. Stevens & Company, Greensboro, N. C.; A. H. Gibbs, J. P. Stevens & Company, Inc., Greenville, S. C.; J. B. Goldberg, J. P. Stevens & Company, Inc., New York; V. B. Holland, Cannon Mills, Kannapolis, N. C.; R. B. Horsley, Pepperell Manufacturing Company, Pepperell, Ala.; H. E. LeGrand, Shelby Cotton Mills, Shelby, N. C.

Also, T. A. McAdams, J. P. Stevens & Company, Inc., Greenville, S. C.; G. W. McGarity, J. P. Stevens & Company, Inc., Greensboro, N. C.; J. B. Marks, M. Lowenstein & Sons, Huntsville, Ala.; H. S. Newcombe, Berkshire Fine Spinning Assoc. Inc., Providence, R. I.; Wm. P. Roberts, M. Lowenstein & Sons, Anderson, S. C.; Leon D. Pryor, Kendall Mills, Paw Creek, N. C.; Arthur R. Sharp, Jr., Bemis Bro. Bag Company, Boston, Mass.; W. P. Sibley, Arcade Cotton Mills, Rock Hill, S. C.; Hobart Souther, Cone Mills Corporation, Greensboro, N. C.; C. B. Smith, J. P. Stevens & Company, Inc., Greenville, S. C.; and J. K. Waits, Joanna Cotton Mills Company, Joanna, S. C.

Others who participated in the program but who were unable to attend the Greenville meeting were: W. L. Clement, Jr., Dan River Mills, Danville, Va.; J. L. Delaney, Joanna Cotton Mills Company, Joanna, S. C.; T. D. Truluck, Deering, Milliken & Company, Union, S. C.; A. C. Young, Jr., Clinton & Lydia Cotton Mills, Clinton, S. C.

In addition to the representatives from mills participating in the program, the following also attended the Greenville meeting: John S. Aiken, Cannon Mills, Kannapolis, N. C.; Earl E. Berkley, Anderson, Clayton & Co., Houston, Texas; George S. Buck, Jr., National Cotton Council, Washington, D. C.; O. E. Commins, National Cotton Council, Memphis, Tenn.; Jack Compton, Institute of Textile Technology, Charlottesville, Va.; John C. Fonville, "Textile Industries," Atlanta, Ga.; Laura Thomas Hall, Kendall Mills, Paw Creek, N. C.; Burt Johnson, National Cotton Council, Memphis, Tenn.; G. D. Mangum, Jr., National Cotton Council, Washington, D. C.; and John T. Wigington, A. C. M. I., Clemson, S. C.

EXCLUSIVE

Suggestions for printers--

Care and Handling of Back Greys

Avoid seams as much as possible.

Use good quality cloth for greys.

Make piecings with butt-end seams.

Avoid damaged seams and edges.

Wash greys often in screen printing.

Use the combining method in screen printing.

Keep greys free of creases.

Use greys as much as practicable without washing.

Use short pieces of grey in block printing.

Wash greys in liquors previously used to wash prints.

Utilize existing facilities to wash back greys.

Employ saturated steam instead of superheated steam in drying.

By RICHARD CARTER

THE BACK GREY in textile printing is an indispensable adjunct to the work, especially in printing handkerchief goods and lightweight dress goods of all classes. The function of the back grey is that of absorbing the surplus print paste from the back of the printed pieces. A three-fold effect is produced:

(a) Elimination of edge flushing of the patterns and general smearing of the back of the printed pieces;

(b) Speeding up drying, because the goods proceeding to the drying cylinders already have the surplus print paste removed by the back grey;

(c) Minimizing washing-off difficulties for the same reason.

Similar remarks hold good for all classes of printing, including screen and hand block printing, as well as engraved roller printing.

In many instances, for every yard of goods printed a yard of back grey is also printed. On light patterns the greys may be used many times without having to be washed.

Back greys do not need to be washed in fresh liquors; arrangements may be made to utilize soiled liquors which have already been used for washing print goods.

Roller Printing. Greys are used in roller printing. Every care should be exercised to conserve the supply of greys by avoiding careless handling. A batch of greys of convenient sizes usually consists of 600 to 700 yards and is made up of four to five webs measuring 130 to 160 yards. It is important to avoid an excessive number of seams in the batches.

Each piece of 130 to 160 yards must be kept intact as long as possible. The reason for this is that each time a grey seam appears in a blotch print, a seam mark or bar mark appears across the printed piece. The defect is more noticeable in roller printing because of the high pressures involved in this method.

Grey seams, in conjunction with blanket seams (60 yards apart), may produce two, three, or more bar marks which have to be cut out of the piece.

The seams, or bar marks, may also be avoided by sewing the grey seams with a butt-end sewing machine. The sewing machine joins the two ends with an overlap stitch so that the ends of the pieces themselves do not overlap. When the ends are pulled tight, this type of seam acts as a continuation of the piece.

In most printed designs, with very few exceptions, this type of seam eliminates bar marks and adds greatly to the life of the back grey.

Quality Back Greys. A good quality back grey should be chosen for two reasons:

(a) Thicker greys will wear longer; and

(b) Absorb more print paste without showing on the back of the grey.

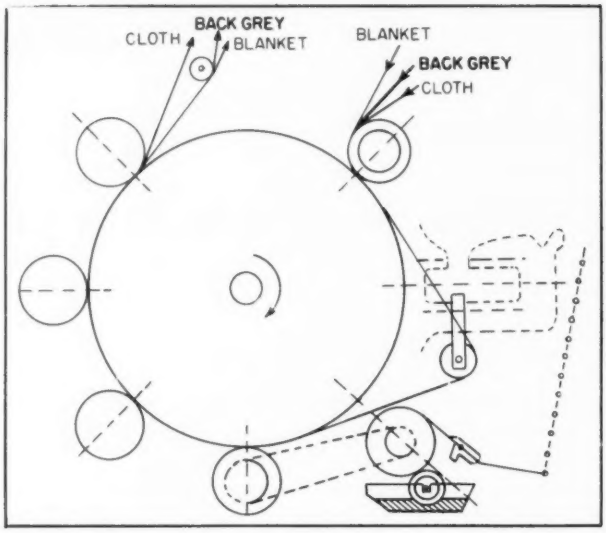
This last point is important in that the grey batch can be used at least twice, even for heavy patterns where large masses of color are pushed through the cloth.

The plain or gum roller is used:

(a) To remove excess print paste from the face of the fabric;

(b) In leveling of printing impressions;

(c) To assist penetration of the pattern as in handkerchief and casement styles where the pattern



BACK GREYS usually consist of 600 to 700 yards each, and they are made up of about four webs measuring 130 to 160 yards. Each piece should be kept intact as long as possible. Seams make bar marks across blotch prints in roller printing.

is required to appear equally well on both sides of the material.

Unrestricted use of the roller may lead to an excessive amount of print paste being pushed through the cloth onto the back grey as well as (in extreme cases) onto the printing blanket.

The butt-end sewing machine is used along with the beaming and batching machine, which prepares the grey batches for the printing machine. The operative should be sure that all seams are intact each time a batch of greys is beamed.

For example, if a seam is slightly torn at the selvage and is allowed to pass, the loose edges may catch in the washing machine, the scutcher, or the drying cylinders and become worse. Furthermore, several yards of grey may be torn on either side of the seam. The damaged cloth will have to be discarded, and over a long period the amount of grey cloth damaged in this way can be considerable and costly.

Seams. Greys for the roller printing shop eventually develop a large number of seams and cannot be used with advantage for blotch printing. Such greys may be passed on for screen printing or hand block printing. In screen printing there is practically no pressure used in the printing operation; therefore the incidence of seams is of little consequence. In hand block printing, little pressure is used, and the quantities of print goods are so small that seams can be ignored for the most part.

Greys for Screen Printing

In screen printing, greys are not used as much as they are used in roller printing in that most screen prints are made on tables where the cloth is mounted—by sticking it to the table-top. In some styles, such as handkerchiefs and neckwear, where good penetration and levelness of the prints are necessary, some printers continue to use back greys.

Printing machine greys, which have already been used and which have too many seams, may be used in screen printing either by spreading the grey on the table beneath the cloth and pinning the cloth to the grey, or else by combining the cloth and back grey on a sticking machine. The latter technique has the advantage that cloth-mounting may be done outside the printing shop by unskilled or semi-skilled operatives, leaving the printing only to be done by skilled operatives.

The combined grey cloth may then be fastened onto the table in the usual way. Another method employs a film of adhesive resin applied to the table-top onto which the combined cloth and grey is made to adhere by a light pressure roller.

Back greys for screen printing require more washing than printing machine greys because a much greater amount of print paste penetrates the cloth, especially where pressure is used in printing. More washing is entailed and it is necessary to find some method of removing the excess amounts of starchy thickenings by malting, so that the greys are kept soft and absorbent.

An important matter in screen printing with back greys is that of "lifting." The term is used to describe the fault which arises from a retained surplus of print paste in back greys which are used in printing additional quantities of goods.

If the succeeding prints happen to feature large masses of light shades and the grey has previously been used for the purpose of printing very dark colors, residues of the latter are likely to be lifted by the moist printing impression of the light blotch colors and give rise to much damage. This last factor is of special significance when using print pastes with opposite chemical reactions, such as vats and azoics.

The azoics are dischargeable by the reducing agent used in fixing the vat colors. If any residues of reducing agents are left in the back greys, they may be lifted by succeeding printings of the azoic colors, and the latter will be partially or entirely discharged at the places affected.

Grey Faults in Screen Printing. There are several other faults which may arise in screen-printing greys. For example, if the combining technique is used, torn cloth or greys may result if the adhesive is too viscous. Another factor is the print paste which

may act as an adhesive in some instances, thus increasing the risk of excessive stickiness and the danger of tearing greys and cloth when they are separated.

After washing, when the scutching and drying operation is reached, all irregular edges increase the risk of being caught in the scutcher's scroll, with resultant stoppages of the machine. Production is curtailed, and additional tears are inflicted and will have to be removed for the insertion of new seams. Much trouble may be avoided by giving some thought to the choice of a suitable adhesive for combining cloth and back grey. It is important to remember that the combining operation should be done with only sufficient adhesive to keep the two together while printing.

Pins. When using the pinning method of mounting the cloth on the printing tables, it should be noted that constant pinning wears the selvage of the greys, which are likely to give way after some time. The fact that worn greys are often used for machine printing is a good reason why the combining technique should be used where possible.

Machine greys are also worn at the sides (at varying distances from the selvage, according to the width of the rollers in use) by the constant wear and pressure of the extreme edges of the copper rollers. This, of course, also increases the risk of tearing at varying stages of processing, such as scutching. In fact, it may be worthwhile to avoid use of the scutcher. After rope washing, twists in the material may be removed manually, relying upon the use of a 3-bar expander to remove creases as the goods are delivered to the drying cylinders.

When using the combining technique it is important to avoid creasing as the two cloths are combined in the machine. All creased portions will give rise to misprints and faulty registration.

Of major importance in screen printing with greys is the good practice of using the greys as often as possible without washing. If it is possible to print two or three times on one grey without removing it from the table, this should be done to save mounting or laying-down time on the table and additional time which would be required in washing and drying. Actually, greys can be kept on the table in some styles for as many as seven or eight printings. This may be done by using thicker print pastes than necessary,

TWUA (CIO) Survey of Textile Companies

The most recent publication by the Research Department of Textile Workers Union of America (CIO), 99 University Place, New York 3, N. Y., is entitled "The Financial Roots of the Current Textile Situation." Essentially it is a survey of the 1950 financial returns of textile companies; the authors of the survey and report "hope that the facts may offer a basis for sound appraisal of the industry's policies."

Tables included in the study of 206 individual textile companies in all branches of the industry are on: business and employee income; summary of sales, profits, and net worth; percentage of increase in sales, profits, net worth and ratios of profits to sales and net worth; expenditures for modernization and expansion and repairs and maintenance, and depreciation; etc.

Compensation of officers and directors and pension payments are given by name of company and individual, for those required to report such information.

Extracts from the report follow:

"While average hourly earnings of wage earners increased from $1.189 in 1949 to $1.236 in 1950, profits (before taxes) per manhour of work rose from $.32 to $.636, equaling the post-war peak achieved in 1947. The share of the textile sales dollar accounted for by wages declined from 23.6 cents in 1949 to 22.3 cents in 1950. Labor's share of the industry's proceeds fell well below its pre-war share (23.8 per cent in 1939) while corporate stockholders raised their stake from 4.4 per cent in 1939 to 9.9 per cent in 1950, before taxes, and from 3.4 per cent to 5.3 per cent, after taxes."

"The net worth of textile corporations has continued to grow throughout the post-war period . . . from $3,528 million at the end of 1945 to $6,275 million in 1950."

"The earnings of the synthetic yarn manufacturers were so fabulous that the value of the stockholders' investment would be doubled in less than two and one-half years if the 1950 rate of return (before taxes) continued."

"The unprecedented prosperity enjoyed by the textile industry during the post-war period laid the basis for a vast program of modernization and expansion. In the five years from 1946 to 1950 the industry spent a total of $2.4 billion for new plant and equipment. . . new machines . . . new models of old machines. . . instrument controls . . . materials handling . . . improved plant layout . . . fluorescent lighting . . . air conditioning . . . new testing devices . . . the operation of the textile industry is being converted in large part from an art to a science."

"The record of the northern cotton and cotton-rayon companies for which information is available indicates a sharp decline in capital expenditures for modernization and expansion (1948-50) while southern companies registered a marked rise."

"The typical listed executive earned as much in two weeks as the average textile worker received for a full year's work. In addition most of these executives enjoyed the benefit of substantial company contributions on their behalf into retirement funds . . . these payments stand out sharply in contrast to the failure of the large majority of textile firms to adopt pension plans for their production employees."

especially in those printing styles where penetration is not important.

Greys for Block Printing

Remnants from machine or screen printing greys, which have become short and with many seams, may be used in block printing. The difficulties which arise in block printing with screen greys are similar to difficulties encountered in other types of printing; however there are one or two points which may be noted. For instance, when a large number of small pieces are sewed together to make a suitable length of grey, differences in the texture and absorbency are unavoidable at different parts of the grey. This fact sometimes gives rise to differences in the quality of the prints produced. The differences are especially noticeable where blotch printing is done.

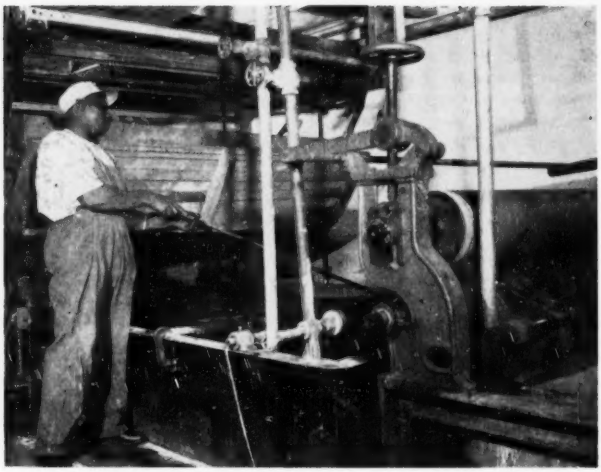
Where penetration is essential as in blotch handkerchief goods, hard places in the grey will affect the production adversely. In fine outline printing it is difficult to produce good printing impressions on hard or badly washed greys. Smearing and jarring of the prints on the back of the piece may also be noticed, due to lack of absorbency on one part of the grey as compared with another.

The foregoing difficulties may be avoided by proper selection of the class of greys to be used, and care should be taken to keep a stock of well-washed, soft greys, with a minimum of seams, where production of high quality print goods on expensive materials is in hand.

Washing Greys

In some establishments it is customary to keep a set of washers for back greys. This is unnecessary where proper arrangements are made for the use of liquors in which prints have already been washed. Open-width washers require no special arrangements—the back grey is fed into the first nip of the washer in the usual way.

Slack-rope continuous-strand washers require an additional nip on the first reel. The light nip is placed at the entering side of the reel on the same shaft as the reel. A nip 20″ to 24″ wide will serve this purpose, and it should be set to run at the same surface speed as the reel. Levers and light weights on the ends may also be used if necessary.



OPEN-WIDTH WASHERS require no special arrangements in that the back grey is fed into the first nip of the washer in the usual way. In this instance the operative is washing the back grey in an Oakite solution.

The foregoing arrangement is adequate to wash the greys after each run of print goods, thus keeping up a constant supply of back greys without interfering with production. For example, if three printing machines are using back greys on light dress goods and blotch patterns, up to 40 to 50 batches of greys per day may be used. This means providing washing and drying arrangements for the equivalent of 200 additional pieces of cloth. Continuity of processing is, therefore, essential if the washing of the print goods is to be carried out without interruption.

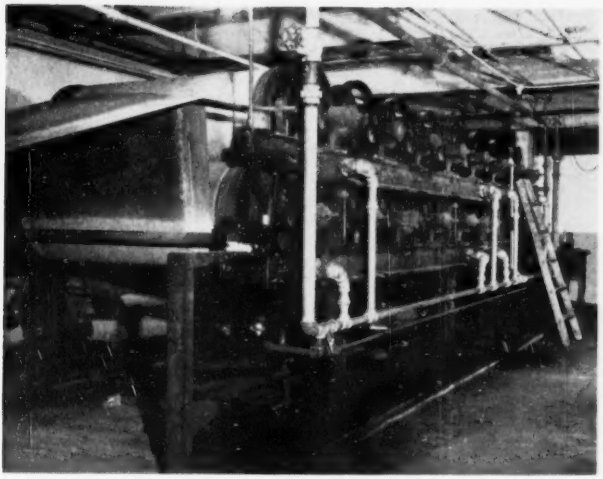
A continuous supply of greys is necessary to keep the printing machines running, and a shortage of greys will be immediately reflected in the lowered output of the printing shop.

Drying

The drying of greys is a matter which should receive close attention. The usual arrangement is a 3-bowl mangle (2 wood or rubber with a brass mid bowl) with a high expression rate—80% if possible—as this speeds up the rate of drying and conserves steam. For medium weight greys, a set of 21 or 22 vertical or horizontal framed cylinders should be sufficient. Large cylinders, such as those used on printing machines which run heavy blotch colors give good service. Each cylinder has separate steam connections, so that several cylinders can be made inoperative when drying lighter clothes than usual.

Only saturated steam should be used in drying because superheated steam has less heating power. This observation is based upon the fact that by far the largest amount of heat in steam is from the latent heat of vaporization. For example, steam at 15 psi and 249.8 F contains 218.4 Btu sensible heat and 946.0 Btu latent heat per pound of steam. At 30 psi the comparative figures are 274.0 F, 243.0 Btu sensible heat, and 929.7 Btu latent heat. This is an argument against the use of higher pressure in drying cylinder equipment.

Steam cannot give up its latent heat until the point of condensation is reached, and super-heated steam, which for the most part does not condense at the heating



STEAM HEATED CYLINDERS provide an excellent medium for drying the washed back greys. If each cylinder has separate steam connections, several cylinders can be made inoperative when drying light cloths.

surface, is a wasteful form of heating. By far the greater part of the steam passes through the cylinders uncondensed and is discharged from the steam traps in the form of "flash" steam. The amount of condensate discharged in such instances is small indeed.

Flash steam is that which is often observed at the outlets of steam traps issuing in clouds from the discharge vents. It is the result of high pressure super-heated steam passing through a steam unit without condensing and then, when atmosphere is reached at the outlet, the sudden drop in pressure induces a corresponding fall in temperature; in a "flash" the steam condenses in a cloud of vapor. Good use may sometimes be made of flash steam by putting the outlet underneath the surface of the water in a hot well where the latent heat may be trapped and the hot water pumped or passed by gravitation to processing.

Dents in drying cylinders should be avoided. They retard the rate of drying because pockets of moisture remain at the dented places where the cloth is not in contact with the surface of the cylinder.

Damp greys give trouble in printing by lifting the film or scum of print paste present on the plain surface of every engraved copper roller.

Creased greys are troublesome because in printing they give rise to mis-prints and faults in blotch printing, especially on handkerchief goods.

Hard greys spoil printing impressions and interfere generally with the penetration which is necessary on many types of lightweight cloth printing.

The Supervisor and his Responsibilities (Waste Control)

(*Continued from page* 131)

may enable larger packages to be built. Examples of this are changes which can sometimes be made in the lay gear and taper gear of the roving frame, and the builder motion and lay gear of the spinning frame. A change in the coiler gears of the drawing frames and the cards might increase the content of the sliver cans.

Another example of waste of equipment is the operation of machines which are so badly in need of repairs that they are always breaking down. The remedy here is obvious and needs little elaboration.

The misuse or mishandling of supplies, and we are using this term to include machinery replacement parts, may be considered as coming under the head of waste of equipment. Many foremen would be astounded if they were given a copy of the monthly dollars and cents cost of the mill's supply bill. Some mills furnish the overseers with this information, especially the portion of the bill pertaining to the individual department.

Each foreman should spend some time each month studying his supply bill and should make sure that the secondhands become familiar with it also. He should spend some time with each section man—in a very large department he might delegate this responsibility to the secondhands—observing their storage, care, and use of supplies and extra machinery parts. If proper storage space for a reasonable amount of supplies is not available, then he should see that such storage space is provided.

It has been generally found to be the best policy to keep all but a working minimum of supplies and spare parts in a central supply room. Here they may be properly stored, then issued as needed to the section men on requisition from the overseer. With this plan it is relatively easy for the overseer to watch his supplies so that no item will become exhausted before re-ordering.

Naturally the foreman will train his men not to use new parts if the broken or worn parts can be repaired more economically.

Whatever the type of waste—material, manpower, or machinery and equipment—the supervisor is the key man in any waste reduction program. The sooner he realizes this fact, and acts upon it, the sooner he will be recognized as an outstanding overseer.

(*To be continued*)

EXCLUSIVE

Slasher for Processing Blends

developed at Crown Manufacturing Company

Firm and uniform beams are wound at speeds up to 65 ypm and higher for some worsted blends.

Staff Prepared

CROWN Manufacturing Co., Inc., Pawtucket, R. I., recently increased slasher production and improved weave room efficiency in the blend division. The progress is attributed to a newly introduced slasher which was designed for greater processing flexibility and constructed so as to avoid mechanical stoppages.

Two and a half years ago, company officials were confronted with an epidemic of slasher breakdowns which bottlenecked production. After studying weak points and maintenance factors in the machinery, mill officials decided that the slasher should be redesigned. Several years of experimentation ensued, during which time Tower Iron Works of Providence, R. I., collaborated with John S. Dickson, director of engineering and purchasing for Crown Manufacturing Co. and Wamsutta Mills.

The final version of the slasher fitted the mill's needs. It combined an Uxbridge "Gentle Air" unit for high efficiency drying with a multi-motor drive which gave trouble-free performance and matched the efficiency of the dryer. Tower fabricated the slasher's many parts, designed and constructed its assemblies, tooled up to manufacture the machinery on a production basis, and is now offering the slasher to the trade.

The slasher appears somewhat conventional in that it includes creel, size box, dryer, and head end; however, many advanced features have been incorporated. The improvements are integrated in such a way as to allow easy operation and maintenance.

Tension Control. Warp tension between section beams and loom beams may be positively regulated. The tension control system on Crown's installation is built around a Westinghouse variable-speed a-c, d-c gearmotor drive. However, other multi-motor drives may be adapted to this slasher.

Manual rheostats and a "Rototrol" regulator govern speed relationships at strategic points along the warp. The creel, size box, Uxbridge Gentle Air unit, and head end are built to exploit stretch control to the fullest extent. Firm and uniform beams are wound at speeds up to 65 ypm and higher for some worsted blends of single and plied yarns.

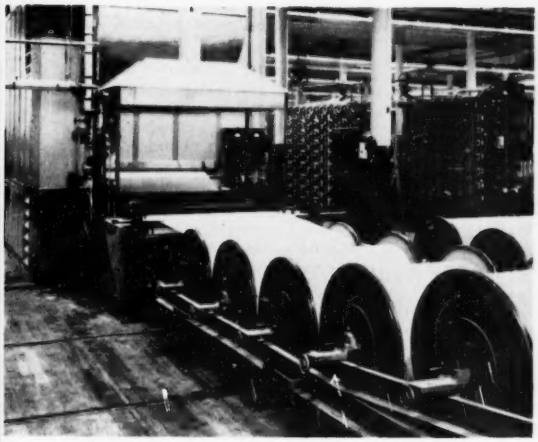
Hot Air Dryer. Operating speeds are determined by the drying capacity of the Gentle Air unit instead of by quality considerations. The Gentle Air unit can dry as much as 1250 pounds of yarn per hour, depending upon size pick-up, fiber, yarn counts, and total warp ends. Moisture controls regulate dryer temperature to produce the amount of regain desired, and warps with optimum regain values are assured.

Size Box Drive. The warp sheet is pulled from the creel by a dry feed roll at the size box. A 1½ hp gearmotor drives the feed roll. A measuring roll preceding the dry feed roll and a carrier roll following the dry feed roll keep the yarn in contact with 315 degrees of the roll's circumference, thereby providing a positive pull. Tension exerted on the warp sheet by beam drag is absorbed by dry yarn. Sealed bearings on size box rolls insure continuous service.

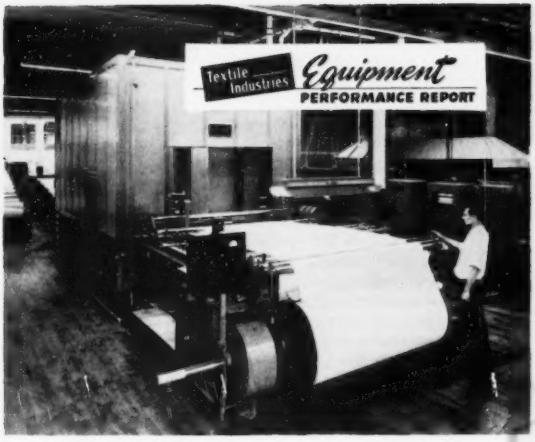
Anti-friction bearings on the slasher's inclined creel are an important part of the stretch control system. The bearings prevent jammed journals, thereby alleviating a cause of variations in stretch and subsequent uneven sets. A fractional difference in stretch among section beams may make a difference in beam run-out and produce considerable waste. Rope brakes counteract the freewheeling effect of the anti-friction creel bearings.

A pair of stainless steel size rolls are nine inches in diameter, and they are driven by a 1½ hp gearmotor. Warp tension between the nip of the dry feed roll and the size roll is pre-set as desired by varying the speed of the size roll motor in relation to the dry feed roll motor. This relationship remains constant during changes in the overall running speed. The amount of stretch imparted to the yarn sheet delivered to the dryer may be controlled and maintained accurately, and uniform tension on the wet yarn is said to assure uniform size pick-up.

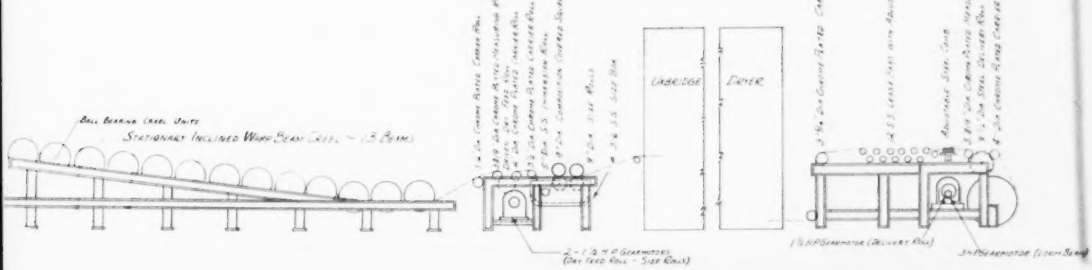
Squeeze Roll Life. According to observations at Crown, life of squeeze roll coverings is considerably extended in that little



CREEL END of slasher showing size box and Uxbridge Gentle Air dryer. Cork composition squeeze rolls at size box have been in service for 2½ years. Stretch control and size box drive arrangement are responsible. Operator can vary tension along critical sections of the warp in process by simple adjustment of manual rheostats (mounted on right side of dryer). Stretch ideal for a given style can be duplicated exactly in successive warps.

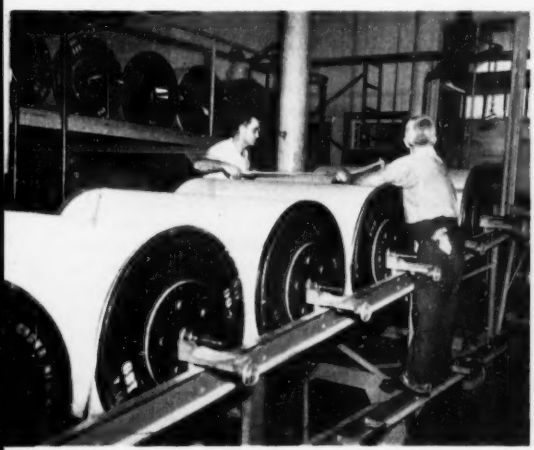


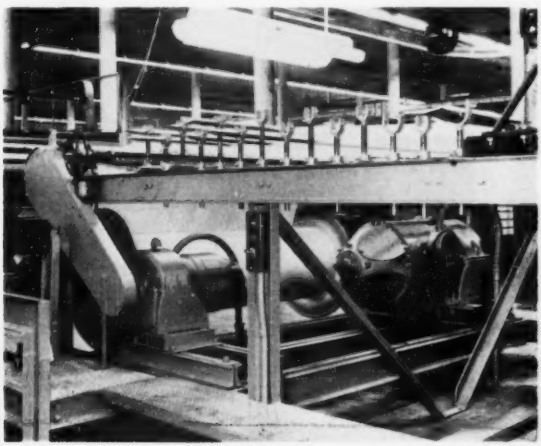
DELIVERY END of slasher showing recessed loom beam which permits operator to reach comb with little effort. Running and stall tensions are set at rheostats mounted at head end (instrument in left foreground). Motor speed relationships remain constant throughout changes in overall running speeds, thereby assuring uniform tension during all phases of beaming.



BALL-BEARINGS on inclined creel prevent jamming, eliminate variables in stretch from beam to beam. Creels are set on rails.

GEARMOTORS for delivery roll and loom beam are tucked underneath head end, are easily accessible for routine maintenance and cleaning.



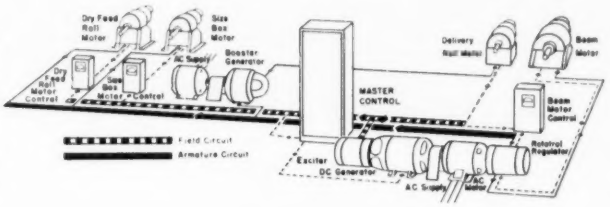


How yarn tension is held constant on the slasher at Crown

Individual gearmotors drive the size box dry roll, size rolls, delivery roll, and beam. Power for all four motors is supplied by a d-c generator which is driven by an a-c motor taking power from the main mill supply line. A booster generator is used in the delivery roll motor circuit to accommodate the speed and tension range, and a master rheostat governs the over-all speed of the slasher. The rheostat regulates the field current supplied to the d-c generator and controls its voltage output. The voltage governs the speed of the four slasher motors and over-all slasher speed. For starting, a motor operated rheostat is used.

Both size box motors and the beam motor may be separately regulated by rheostats in the field circuits to allow for shrinkage or stretch. The delivery roll motor is used as a master reference. Speed is not regulated separately on the delivery roll motor.

When set at operating speed, all motors maintain constant speed except the beam motor. The beam motor automatically slows as the beam builds up, in order to maintain the pre-set winding tension. The amount of tension is proportional to the horsepower output of the beam motor for a selected warp speed. Tension is held constant by holding the armature current of the beam motor constant. A "Rototrol" regulator holds the beam motor armature current constant by continually adjusting the beam-motor field.



pressure is required, and the dry feed rolls draw the warp. Sole function of top roll pressure is to remove excess size.

Used in conjunction with pressure regulators, cork composition squeeze rolls at Crown Mills are still in operation after 2½ years of service. In this instance the composition covering represented higher initial cost, but continuous operation has helped pay for the composition covering many times.

Several advantages claimed for the squeeze rolls in use at Crown are as follows:

Long overall life of covering
Retain smooth working surface while in service
Seldom require rebuffing
Same rolls serve equally well for use at either front or back roll position.

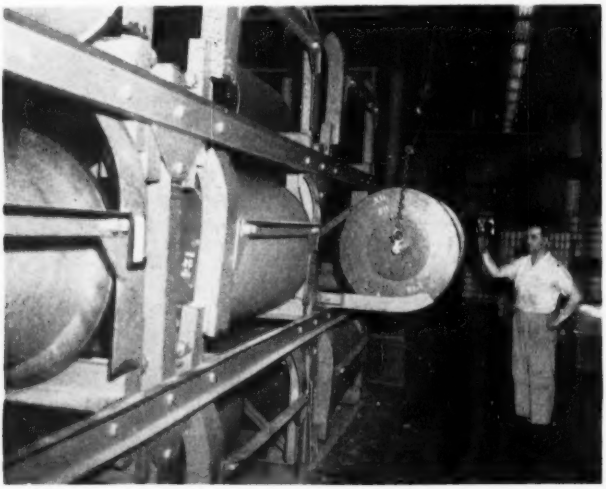
Head End Drive. Warp stretch is controlled also between the size box and the delivery roll. A third 1½ hp gearmotor drives the delivery roll, and speed differential to allow for shrinkage or stretch between the size roll and delivery roll is regulated by manual rheostat. The rheostat signal varies size roll speed, and the delivery roll motor is used as a master reference. Both manual rheostats are mounted on the entering end of the dryer.

Slip during beam wind-up is held to a minimum by a direct beam drive. A 3 hp gearmotor automatically slows and maintains constant surface winding speed and tension as the beam builds up.

Over-all speed of the slasher is set by master rheostat, and all motors run at constant speed, depending upon the setting. A motor operated rheostat simplifies acceleration at start. The slasher can be stopped, started, or run at creep speeds as low as 5 ypm without upsetting pre-set running speed or tension.

The amount of stretch is

TIER STORAGE RACK is equipped with automatic locking tailgates. Overhead rails at all stages of processing permit rapid handling. Operator is transporting a section beam to the creel by overhead monorail.



checked by comparing yardage counters attached to entering and exiting measuring rolls. Once determined, the correct stretch for a single style can be duplicated exactly for successive runs.

The importance of uniform warp tension has been tangibly demonstrated at Crown. The head end of the slasher starts with a hard beam, and this factor alone saves the mill several dollars on every beam in that all of the warp can be woven, thereby minimizing waste. Attributed to uniform beam density, at least 20 per cent more yarn is wound onto Crown's 30-inch beams.

The mill profits from longer runs, less handling, and less loom down-time for drawing-in, tying-in, and changing beams.

Recessed Beam. On this slasher, the beam is tucked partially inside the frame of the head end. This change was achieved by raising the entire warping plane and locating the beam beneath the warp in the space made available. The expansion comb is within easy reach of the operator. On troublesome work such accessibility is an invaluable time saver. The recessed beam can be handled by jack or chain hoist, and the head end accommodates a 36-inch beam.

Another feature of the head end is the ability of the comb to strike into the warp and lock. The comb is mounted on an eccentric shaft which may be rotated away from the warp sheet.

Materials Handling. Overhead beam handling equipment is provided from warper to storage tiers and magazine creel, from slasher to weave room, and from weave room to warping section.

Monorail type materials handling equipment is considered indispensable for the large package operations at Crown.

Nine sets of warp beams are stored in a three-tier, three-row rack. Automatic locking tier gates guard against accidents. The gates are designed to prevent beams from rolling off during loading and unloading.

Yarn-Dyeing Process for Nylon Gives Sheer Tricot Truer Patterns

Tricot fabrics of 15-denier nylon are now being manufactured with yarn-dyed stripes and checks. Through the development of a new processing technique, Native Laces & Textiles have created striped and checked tricot of the fine yarn with patterns claimed to be truer than those made by printing, previously the only suitable method for such sheer nylon fabrics.

Their success in dyeing the yarn on the cone is said to have produced beautifully clean-edged patterns, opening up new style possibilities for blouses, dresses, and lingerie. The development also permits retention of a fine hand in tricot fabrics.

Formula and development of the dye process is confined to Native Laces.

The process assures color fastness to heat setting, it is claimed, thus increasing the range of permanently pleated effects. It also makes the colors highly resistant to fading from washing and from exposure to gas or sunlight.

How Fiber and Spinning Tests Can Aid You

Dr. Burt Johnson, fiber technologist of the National Cotton Council, has prepared a non-technical handbook of suggestions for cotton spinners, merchants, and fiber technologists entitled "Use and Application of Fiber and Spinning Tests." It is not intended to teach persons how to perform the tests, but much that is useful will be found therein, especially for management and operating executives.

The purpose is to explain why a test gives values that can be used to increase efficiencies at various points. And, according to the introduction of the book, knowing why a test produces usable data gives the user of those data confidence in them; he is also in a better position to discover new ways of applying them to his daily cotton problems.

Chapters are devoted to a description of the cotton fiber, fineness, strength, length, maturity, value of fiber data, and the reading and using of government fiber and spinning test results.

Concrete examples of the value of fiber data include the following typical instance of usage:

"A company owns two mills making the same product. The mills' buyer had been supplying the same grade and staple to both mills. Of course, all the cotton for two such large operations could not come from one place. Mill No. 2 had very poor production as compared with No. 1. The superintendent worried along, trying to work No. 2 into a profitable production rate. Nothing worked. Finally the problem was taken to the fiber laboratory. Now note how the team went to work.

"The practical superintendent saw a problem. He brought it to the fiber technologist. The technologist, in turn, measured the properties of the cottons being used in both mills and found them different. Then the ball was passed back to the superintendent, who got a trial run of Mill No. 1 cotton over to Mill No. 2. The trial cotton ran as well in No. 2 as in No. 1. The problem was solved from then on—but more was gained.

"The mills' cotton buyer was then given the ball. The good cotton's qualities were now so well known that the buyer and laboratory working together could keep the raw cotton supplies up to a known and relatively uniform quality standard for both mills. This assured equally good operations and equally good qualities in both mills."

The handbook may be secured from the National Cotton Council, Memphis, Tenn. No charge.

DONATING A PINT OF BLOOD to the Red Cross blood plasma program is James Rearden, of Lanett, Ala. Other members of his family—all of whom also donated blood on the same day—look on. Standing, left to right, are: Dorothy Cotton, Lamerle Sims, Wilma Rearden, Rosalee Rearden, Clara Hadaway, Helen Alexander, Buran Sims, Harvey Cotton, Roy Rearden, and James P. Hadaway. All are brothers and sisters, or brothers or sisters-in-law. The nurse is Miss Martha Boggs, of Atlanta. Most of the donors are employees of the Lanett Mill division of the West Point Mfg. Co., or of the Lanett Bleachery and Dye Works.

They Give

THE GRIM realities of war come closest home to those who have been seared by its brutality —to those who have a brother, a father, a son, a friend crouched in a foxhole in Korea or patrolling somewhere in the volcanic reaches of once war-torn Europe. These know the miracles that blood plasma has achieved and is achieving today for hundreds of thousands of Americans serving in the armed forces.

This is a fact that was demonstrated dramatically when the mobile blood unit of the American Red Cross from Atlanta traveled recently to Lanett, Alabama, to obtain an assigned quota of 200 pints of blood to help save American lives.

The enthusiastic response added further laurels to those already won by the Chattahoochee Valley chapter of the Red Cross and evidenced concretely the concern of textile employees in that area for the welfare of relatives and friends, as well as for that of many thousands unknown to them, who are serving their country abroad.

Participating in the Valley blood program are residents of the six interlocked towns of that textile community: West Point, Lanett, Shawmut, Langdale, Fairfax and River View. Until recently, the blood was collected at a central point for all six towns. The schedule now has been changed so that the programs are being conducted in the individual towns.

The last program was held in Lanett—and approximately 95 per cent of the donors were employees

MANY ARE INSPIRED TO PARTICIPATE in the program by the eagerness of those who donate their blood because they, like the wife and parents of Corporal Bill Cawley pictured here, have relatives in the service. Corporal Cawley (left), who was at home on leave from military service in Korea when this story was written, is a former employee of the Fairfax Mill division of West Point Manufacturing Co., where his wife (right) and father and mother, Mr. and Mrs. Bernard Cawley (rear), are still working.

Their Blood

★★★★★★★★★★★★

Typical of the way in which men and women of the textile industry are responding to the urgent call for blood for military and civilian needs, is this account of a visit of an American Red Cross mobile blood unit to Lanett, Ala., to obtain blood to help save American lives.

More than four million pints will be required during the period September 1951-July 1952. Because the men and women of American industry constitute the greatest single aggregate of civilians who are largely of the proper age and health condition to give blood, they have been asked to contribute a major share. As they always have in the past, industrial management and labor are coming through now.

The agency responsible for collecting blood for both the Armed Forces Blood Donor Program and for the ordinary use of civilian physicians and hospitals, is the American National Red Cross. Mills not already participating in the program are urged to contact Red Cross local chapters or regional offices for information.

Industry has no standard pattern of procedure for producing this priceless gift. Most frequently the blood is collected by the Red Cross "bloodmobiles" on company property. Sometimes it is on company time. Sometimes it is on the employees' time. Local unions collect blood pledges from their members at some plants. At others, management collects pledges from the employees in order to schedule the blood donations and maintain production with relief men.

What happens at the level of the plant community will finally determine the success or failure of the blood donor program.

★★★★★★★★★★★★

of the Lanett Mill Division of West Point Manufacturing Company and of the Lanett Bleachery and Dye Works. A. T. Hanson, director of the department of insurance and safety, West Point Mfg. Co., is chairman of the Valley blood program, and Mrs. Robert Lanier of West Point is co-chairman. Hugh Rodgers, director of personnel, Lanett Mill division of West Point Mfg. Co., is chairman of recruiting, with two assistants in each of the six towns.

Donor after donor had a relative or a friend in Korea or the European theater—or had himself served in the armed forces of the United States. They knew intimately the need for blood if lives were to be saved on the battlefields or in the precarious shelter of the hospitals.

Eleven Donors from One Family. Something of a record in Lanett was established when 14 members of one family showed up to donate their blood. Eleven of them came

Laps automatically checked, weighed and transferred to cards.
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Interlocking cranes serve rows of looms in long bays.
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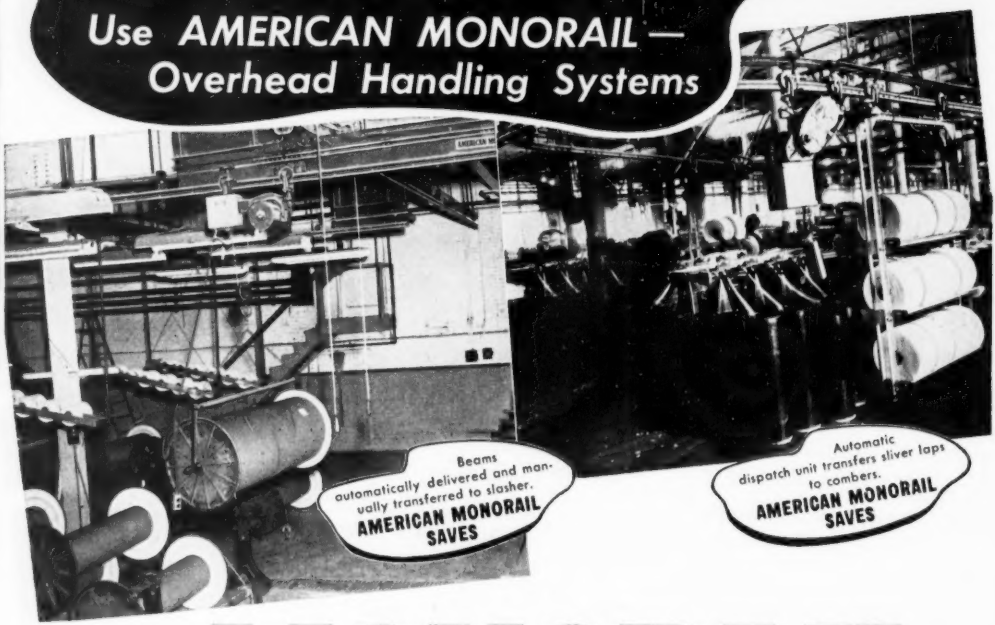
Beams automatically delivered and manually transferred to slasher.
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Automatic dispatch unit transfers sliver laps to combers.
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THE AMERICAN MONORAIL COMPANY

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to the blood donor center at the same time. They had adequate reason to want to give: Two members of the family are in Korea today. One is Charles Rearden and the other, William O'Neal Alexander.

James Rearden of Lanett, a brother of Charles Rearden and a brother-in-law of Bill Alexander, summed up the reasons they appeared for blood donations when he said: "Those are our kinfolks over there fighting. It may be our blood could save their lives."

Other members of this Lanett family giving their blood were: Dorothy Cotton, Lamerle Sims, Wilma Rearden, Rosalee Rearden, Clara Hadaway, Helen Alexander, Buran Sims, Harvey Cotton, Roy Rearden, and James P. Hadaway.

Then there was Martin Sprayberry, who works in the No. 2 spinning room at the Lanett mill.

"Why am I giving blood?" he asked in response to a question. "Well, I've got a nephew in service. My wife has two nephews in the Army. They might need it."

There was Nick W. Clark, who also works in the spinning department. He has a brother, Ned, serving in Korea. But Nick had an even greater reason. "You see," he said, "I served in the Pacific during the last war myself. I just got out of service in July." He knew, first-hand, what blood plasma had done to save lives.

Cecil Hadaway, an employee of Lanett Bleachery and Dye Works, has a brother, Sgt. George B. Hadaway, who has been serving in Korea for several months. He, too, formerly worked in the dye works. "But I'm not giving my blood just because of my brother," he said. "I gave the last time the blood unit came around, because I figure there may be a lot of guys who need blood."

Numerous others had friends in service abroad. Typical was Earl Nix, who said he had friends serving today in Europe. "That's the main reason I gave blood before and am giving again," he said.

Altogether, 247 employees of the Lanett Mill division and nearly 60 from Lanett Bleachery and Dye Works, appeared voluntarily to offer their blood.

Chairman Hanson characterized the response as "enthusiastic and gratifying." He said the textile employees had consistently formed the backbone of the program and pointed out that they register during hours that do not conflict with their jobs in the mills.

When the blood donation programs are held in the Valley, more than 60 volunteers assist the area headquarters. These include "gray ladies," staff aides, nurses aides, members of the motor corps, and Boy Scouts.

These groups receive their assignments from Mrs. Claude Milford of Lanett, secretary, and a staff member of chapter headquarters. The latter group has the

Germany Needs Modern Knitting Machinery

Although the German textile machinery industry was able to start exporting machinery again by the middle of 1950, the *Gesamtverband der Deutsche Wirkereien und Strickerien* (The General Association of German Weaving and Knitting Firms) is reported to have complained of a very unsatisfactory supply of textile machinery.

The Association is said to be especially concerned over the short supply of modern knitting machinery to the domestic trade, which, it states, is preventing German industry from competing both quantitatively and qualitatively with other countries, and even with imports of foreign materials into Germany.

Reports indicate that the immediate requirement of the trade is for cotton and automatic stocking machines, as well as English circular knitting machines. The provision for importing such machinery is quite inadequate to meet requirements, and the Association is pressing for an immediate liberalization of import restrictions on these goods.

A new West German tariff which previously applied a duty on the machinery weight has now been altered to apply to value and has brought an increase in tariff rates for textile machines. The highest duty is 15% ad valorem which affects washing, bleaching and dyeing machines; other machines are charged 12% ad valorem or 8%.

New Foreign-Made Synthetic Fibers

The following new foreign-made synthetic fibers were listed by J. B. Goldberg, research director of J. P. Stevens & Co., Inc., in an address on textile research achievements during 1951, before the American Association of Textile Technologists:

Casolana, from casein derived from milk, by Dutch Condensed Milk Factory.

Tovis, a Japanese crimped viscose staple with wool-like properties.

Toramomen, Japanese viscose process fiber having low swelling and shrinkage characteristics when wet.

Viscol, from Italy, a flat-filament yarn suitable for plush fabrics.

Phrilon, a German product offered as a competitor to nylon and Perlon.

Austrylon, the name given to nylon produced in Austria.

Coiesco, Italian product obtained from animal skins after dressing, useful for felting or as filler in blended yarns.

PCU, from Germany, a wet-spun polyvinyl chloride fiber with more strength and chemical resistance than original PC.

Cupressa, a German dope-dyed cuprammonium filament yarn.

Mirlon, exhibited at Swiss Fair, a nylon-like product made from caprolactam.

Merinova, from Italy, said to be an improved casein staple fiber.

2 WAYS TO REDUCE WASTE

No. 1 PRESSURE —Tells employee waste MUST be reduced

How to Reduce Waste on ANY JOB

Results Secured from Periodic "Waste Drive"

A. Gives only Slight, Spotty Reductions.
B. Affords little or No Control of Waste.
C. Creates varying degrees of employee resentment.
D. Increases work of supervisors.

No. 2 TRAINING —shows employee HOW Waste CAN be reduced

—*sells* employee on cooperating willingly to reduce and control waste

Results Secured from "Planned" Waste Program

A. Gives maximum reductions consistent with quality production.

B. Control established for each type of WASTE.

C. Creates little or NO employee resentment.

D. Decreases work of supervisors

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We guarantee your company will save five times the cost of our service in the first twelve months following installation. The mills we have served will recommend our work. We solicit your inquiries.*

The Periodic "Waste Drive"

This approach to reducing waste is generally conducted on a departmental basis. Little consideration is given to the fact that poor quality work in one department results in increased waste in the following departments. Varying degrees of pressure and force are applied to try and make employees "waste conscious"

In addition to being a proven means of Reducing Unit Cost, our waste service indirectly results in increased efficiency, improved quality and better employee relationships. The end result is improved supervision.

The "Planned" Waste Program

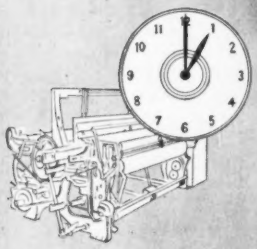
Our method affords a mill-wide, concerted-effort approach to reducing and controlling waste. Every level of supervision, in a series of Waste Training Conferences, learns a practical, simple method for reducing and controlling waste.

During these conferences a complete study is made of each type of controllable waste to cover the following:

1. The Reducing of WASTE
2. The Handling of WASTE
3. The Reporting of WASTE
4. The Control of WASTE

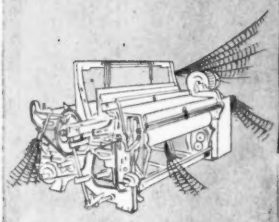
***We will be glad to furnish a list of mills using our service**

On a RISING or FALLING DEMAND...



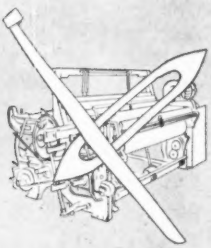
BY ACTUAL TESTS...

Hundreds of extra loom hours.



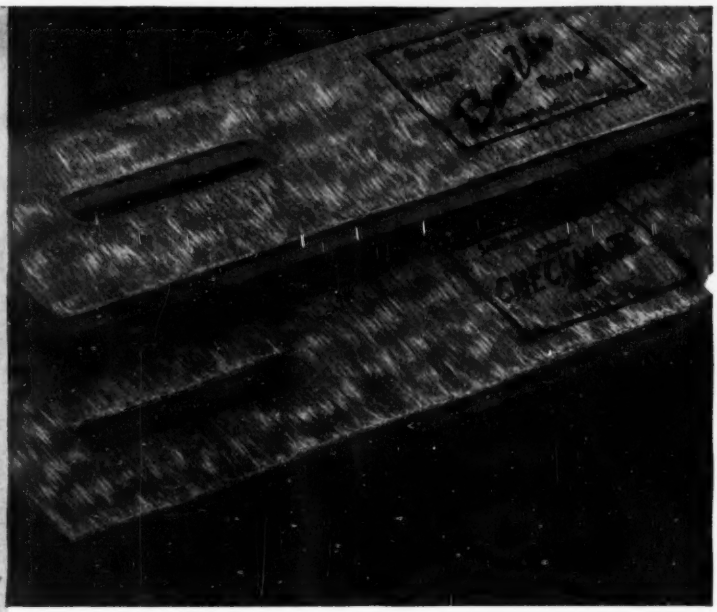
BY ACTUAL TESTS...

Decreased down time.



BY ACTUAL TESTS...

Far less wear on other loom parts.



Quality Pays DIVIDENDS

Never sell quality short...buy for production dividends. Because CHECKMATE and BON VIE checkstraps are designed to wear longer—thousands of loom hours longer . . . they cost less per hour of operation! They reduce costly down-time, give greater protection to expensive loom parts and add up to increased production and greater profits.

Write today for prices . . . and check your actual cost.

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THE "SOUTHERN WAY" IS THE MODERN WAY

aid of 29 volunteer assistants.

Chairman Rodgers is high in praise of the town recruiters. He said they were merely notified of what their registration quotas were for each program and were confident that the required number of volunteer donors would be on hand for their appointments.

As for the insistence of relatives of soldiers in Korea giving their blood, Mr. Hanson commented: "On one occasion we had to make room for the wife and father of a soldier in Korea, because tney were so insistent on giving blood after the quota of volunteers had been filled." Those who are so eager to give because they have kinfolk and friends in service also inspire others to participate in the program.

The present town chairmen in the Valley recruiting program are Milton Cohn and Smith Lanier III, West Point; V. B. Taunton and Fred Caswell, Lanett; L. F. Underwood and Blake Lane, Shawmut; Hugh Smith and Willard Hawkins, Langdale; Mr. Hanson and Bill Addison, Fairfax; LaFayette Bledsoe and Mrs. Lorena Nealey, River View; and C. M. Reeves of the Huguley community. Past chairmen of the entire Valley program have been T. Scott Avary of West Point and Robert Rearden of Langdale. Executive secretary of the Valley chapter of the American Red Cross is Mrs. C. W. Hudson.

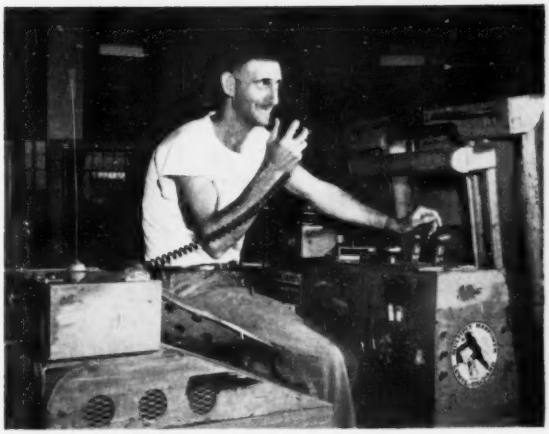
Other officers of that chapter are: Bruce Lanier, West Point, chairman; Lee Johnson, Langdale, vice-chairman; R. J. Morton, West Point, treasurer; Mrs. Paul Auston, Shawmut, secretary; Bill Spell, Lanett, finance chairman; Leslie Scroggs, West Point, auditor.

Town directors are: Cliff Grover, West Point; Hugh Rodgers, Lanett; Blake Lane, Shawmut; Mrs. Hugh Smith, Langdale; A. T. Hanson, Fairfax; Mrs. Edgar Nealey, River View; and C. M. Reeves, Huguley community.

Incidentally, the Valley chapter of the American Red Cross has by no means limited its activities to the blood donor program. It carried out a highly successful program of obtaining and sending Christmas gifts to wounded servicemen in hospitals and on the high seas.

Thirty-six church and civic groups of the community, headed by Mrs. E. R. Lehmann, Langdale, contributed generously for gifts sent to soldiers at the Fort Benning Station Hospital.

The West Point Woman's Club contributed funds for the purchase of boxes sent servicemen on the high seas.



ACKNOWLEDGING AN ORDER over his truck-mounted, short-wave radio this industrial truck operator prepares to carry out his instructions from the dispatcher shown in the photo below.

Industrial Trucks Dispatched by Radio

Intraplant shipments are reported to have been greatly speeded up and better organized by the installation of a two-way communications system at the Westinghouse Appliance Division Plant in Mansfield, Ohio.

From a centrally located dispatching office any industrial truck operator in the plant can be given shipment orders along with all essential information as to the most easily accessible storeroom possessing the proper quantities of the materials to be moved.

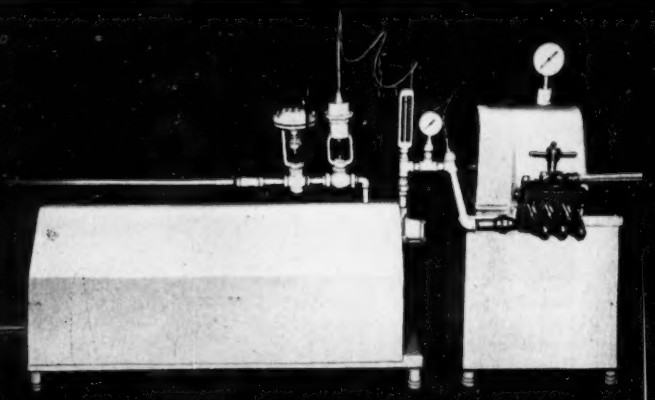
One dispatcher handles the entire fleet of trucks and is shown here recording information received from a truck operator on his master materials location sheet. This record is continuously compiled by the dispatcher from truck operator's call-in reports so that he has at his fingertips an up to the minute record of both material locations and quantities of materials at these locations.

The installation, very similar to taxi dispatching systems, is regularly licensed.

Better Slashing and Weaving

with the SCOTT & WILLIAMS HYDROPULSE

- no waste of sizing
- saving on starch
- saving on steam
- better process control
- increased weaving efficiency



The Scott & Williams Hydropulse consists of a heat exchanger and a high pressure homogenizer designed to work in tandem.

The Scott & Williams Hydropulse is engineered specifically for textile warp size preparations. It automatically prepares homogenized size at the rate of slasher consumption.

1. You eliminate sizing waste. All the size mix goes to the homogenizer, and all the starch is used. There is no chance for starch to stick to cooking kettles as in older, slower, batch methods.

2. You save on starch costs. Use less expensive, thick, boiling starch instead of costlier modified thin boiling starch.

3. You save on steam costs. Recent tests show *50% less* steam is required by the Hydropulse as compared with old-fashioned batch methods.

4. You get better process control. Major variation in size quality is eliminated because of more precise methods of mixing and handling.

5. You obtain increased weaving efficiency. Since only *fresh* size is used viscosity is closely controlled, and other troubles such as shedding, hard size and soft warps minimized.

All of these advantages add up to savings that soon pay for the installation (in less than a year in actual cases).

Manufactured by

Pioneer Division, Scott & Williams, Inc.
Empire State Bldg., New York 1, N. Y.

Southern Sales and Service:

Southern Sizing Company

EAST POINT, GEORGIA

Round - Up: Textile Flammability

National Legislation Proposed

PERIODIC public concern over the rate of burning of textile materials, such as the recent fires, and prior to that the cowboy suits, hastens legislation which, it is felt, can do as much harm as good if not properly administered. This opinion was recently expressed by the United States Testing Company of Hoboken, N. J.

Experience of this concern indicates that in order to draft legislation to restrict the sale of highly flammable materials, laboratory techniques must be used at the various stages of manufacture of a textile article. Any attempt to draft legislation without due consideration to the test technique would result in a high degree of confusion in the entire textile industry, one of the company officials said.

The term "brushed rayon" has been applied quite generally in connection with the garments. The classification is considered technically correct in the case of the particular garments that have come to the attention of the United States Testing Company. However, it must be realized that "brushed rayon" is a broad classification of goods and that it is only by scientific control testing that the classification can be broken down into fabrics of normal flammability, those that are questionable, and those that are considered a hazard to the wearer.

Police Departments in various towns and cities throughout the country have been swamped with garments which people suspect because they either purchased them from street peddlers or obtained them from unknown sources as gifts. Many of the garments were found to be so constructed that they were of no particular hazard.

There are many factors which must be understood in order to determine whether a garment is or is not of a hazardous nature. The Testing Company explains that the type of fiber used in the fabric may not be of prime importance even though the cellulose fibers such as cotton and rayon, have a different reaction to flame than acetate, nylon, wool, silk, and some of the other fibers.

The method in which the fibers are arranged in the yarn and fabric, and the amount of napping, influence the rate of burning. There is no particular hazard offered by flat rayon or cotton fabrics, it was explained. It is only when a large quantity of loose fiber is piled on the surface of a fabric that it presents an easily ignitable and rapidly burning condition. The construction of the fabric enters into the rate of burning in much the same manner that making a pile of shavings of a block of wood changes the burning characteristics of this form of cellulose.

The textile finish enters into the question of the rate of burning of textile materials, both from a standpoint of rendering the material non-flammable by use of fire retardant compounds or, on the other hand, by adding decorative or finishing materials which in themselves ignite easily and add to the rate of burning.

Even under present conditions, where legislation governing the sale of flammable textiles is in force in only one state, the Testing Company has to be equipped with test apparatus specifically for that state, as well as three other testing units in partial use on a nation-wide scale. If legislation must be drawn, the Testing Company feels that it should be on a national level in order that laboratories throughout the country can be equipped to conduct the huge volume of testing necessary to weed out those materials which are apt to present a hazard or require special fire retardant finishings.

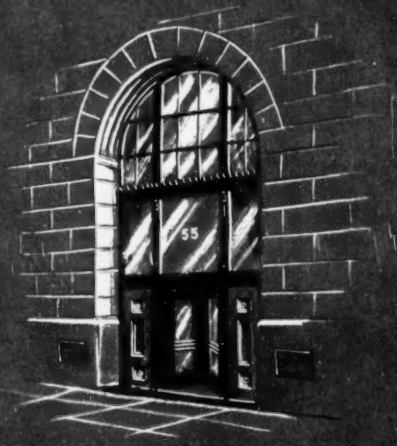
Wool Bureau Requests FTC Action

The nation-wide extent of the sale of explosively inflammable brushed fabric twin jacket sets is being revealed by the number of communications received as a result of The Wool Bureau's offer of a $100 reward for the conviction of anyone selling these jackets as being made of wool or containing wool, the Bureau announced.

Letters received by The Wool Bureau, together with samples of deceptive labels and certificates of guarantee, are being sent to the Federal Trade Commission with a request for summary action, the Bureau reported.

In addition to selling a product which is dangerous to human life and property, the Bureau declares, the manufacturers and distributors are practicing a gross deception upon the public by labeling these garments in such a manner as to deceive the purchaser into believing that they are made of genuine camel's hair.

Garments received from different parts of the country, The Wool Bureau says, contain labels bear-



TEXTILE BANKING COMPANY

Inc.

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

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ing the likeness of a camel, over which is printed the word "camel" and the further statement "guaranteed to be 100 per cent pure spun yarn." In addition to this deceptive label, the Bureau states, the peddlers present the purchaser of the jacket with an elaborate "Guarantee" certificate, bearing the likeness of a camel which contains the following statement:

"The purchaser of this Yorkshire twin-jacket set is assured of 100% spun yarn, experienced workmanship, and genuine leather buttons."

The Wool Bureau asserts that it repeats its offer of $100 reward for the arrest and conviction of any peddler or salesman found guilty of having sold any of these products with such false guarantees.

ASA Discusses Safety Standards for Children's Clothing

Safety standards for children's and infants' clothing, toys, and furniture were the subject of an unusual discussion recently over the Du Mont television network, Woman's Club Program.

Dr. George M. Wheatley, vice-president of Metropolitan Life Insurance Co. and chairman of the American Academy of Pediatrics' Accident Prevention Committee, lead the discussion on the causes and prevention of accidents to children.

Basis for the discussion was the proposed American Standards Association project on safety standards for hazards to children. The American Academy of Pediatrics recently requested that such a project be organized under ASA procedure.

The academy request was made when it became clear that "accidents cause more deaths in children from 1 to 14 years of age than any other cause," Dr. Wheatley said. The miracle drugs have reduced the number of deaths from pneumonia and the contagious diseases, but there have been no miracle drugs to reduce the number of deaths from accidents.

"Pediatricians began to tell us," Dr. Wheatley said, "of burns to children caused by highly flammable clothing; strangulation due to poorly designed sleeping garments or restraints; lead poisoning due to ingestion of lead paints; and falls from badly made high-chairs, etc."

"This looked like an engineering problem," Dr. Wheatley continued, "so we asked the American Standards Association to sponsor a meeting to discuss the need for standards in the manufacture of some of these causes of accidents."

As a result of that meeting, Dr. Wheatley is now chairman of a special ASA study committee which he stated, "will examine the need for safety standards in seven specific fields including flammability of textiles for children's clothing; safe labeling of coatings and coated materials for toys and furniture; and harnesses and sleeping garments that restrict movement.

Test Nylon Products for Flammability

Nylon yarn is more resistant to burning than cotton, rayon, silk, or wool, according to experience reported by the Du-Pont Co. in a Nylon Technical Service Bulletin issued recently.

The natural flammability of clean, undyed, finish-free nylon and of nylon dyed and finished with properly selected materials is very low and considered highly satisfactory for practically all textile purposes, the Bulletin indicated. Nylon will not flash burn. It will melt at a temperature of approximately 480 F, if a flame is applied. However, as soon as the flame is removed, the melt will drop away from the yarn or fabric and harden with very little tendency for further flame propogation. Therefore, it can be considered "flame-proof."

However, if pigments, dyes, oils, finishes, salts, or other materials are present on the fiber, the company warns that there is always the possibility that the resulting treated yarn or fabric may support combustion due to their presence.

It has been found that combination nylon-Fiberglas fabrics may burn when ignited, although neither nylon fabric nor Fiberglas fabric will support combustion alone; the same is true for nylon-asbestos fabrics. It has also been found that inclusion of other fibers, such as cotton, rayon, or wool, with nylon in combination fabrics may make the fabrics more flammable, even though the other fibers are treated with flame-retardants.

Investigation of the effect of various dyestuffs on the flammability of nylon fabrics indicates that, in general, most of the acetate, acid, and direct dyes have only slight or no effect on flammability, but many of the chrome and other metallized dyes do appreciably increase the flammability.

By applying thioureaformaldehyde resin to chrome-dyed nylon fabrics it was found that flammability could be reduced to the level of that of the undyed control fabric. The amount of resin varied with the type of fabric sample.

"In view of the many variables affecting flammability," the Bulletin states, "it is considered advisable for each manufacturer of products made from nylon to have flammability tests conducted on his own products as ready for the market, wherever flammability is an important factor."

Tax Structure in Eight Southern States

DESPITE the enactment in 1951 of the most comprehensive sales tax [3%] in the United States, the impact of Georgia taxes upon present or future industrial enterprises in that state compares favorably with the seven neighboring states of Alabama, Florida, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia, according to a comparative survey and statement by the Associated Industries of Georgia.

The study was made following reports that industries which had contemplated establishing in Georgia, decided to build plants in other states when the Georgia sales tax was instituted.

The accompanying table shows profit after taxes, per dollar of sales; and taxes per dollar of sales for eight southern states.

The statement from AIG points out that the variation is inconsequential and could be offset during a years' operation in any of the states by factors like location, transportation, fuel, power, access to materials, efficient management, etc.

So that the facts could be checked accurately, the AIG set up a hypothetical textile plant in each of the eight states studied, calling it "Dixie Rayon Enterprises, Inc." The tax layout for the hypothetical textile concern appears in the AIG report, and the statement of operations for the year ending December 31, 1951 is given herewith in tabular form for comparative purposes.

In view of the recent press statements concerning the tax situation in northern and southern states, readers may be interested in securing from the National Association of Cotton Manufacturers the remarks in full of Joseph P. Healey, executive director of the Special Commission on Taxation for Massachusetts, delivered before the annual convention of NACM.

The Healey report was carried in brief on page 132 of the November 1951 issue of TEXTILE INDUSTRIES. In part, Mr. Healey said that "three-fourths of the corporations in the sample (studied) would have higher tax bills in Charlotte than they have in Massachusetts. . . despite a 3% retail sales tax, which was not taken into consideration, it costs more in state and local taxes for a corporation to operate in North Carolina than in Massachusetts."

Profit, after taxes, per $1.00 of sales		Taxes per $1.00 of sales	
1. Alabama	7.16¢	1. Alabama	7.85¢
2. North Carolina	6.66¢	2. Florida	8.00¢
3. Tennessee	6.66¢	3. Virginia	8.15¢
4. Georgia	6.68¢	4. South Carolina	8.18¢
5. Mississippi	6.68¢	5. Georgia	8.31¢
6. South Carolina	6.82¢	6. Mississippi	8.31¢
7. Virginia	6.84¢	7. North Carolina	8.32¢
8. Florida	6.99¢	8. Tennessee	8.33¢

Dixie Rayon Enterprises, Inc. (Hypothetical)

Statement of Operations for Year Ending December 31, 1951

	Alabama Plant	Florida Plant	Georgia Plant	Mississippi Plant	North Carolina Plant	South Carolina Plant	Tennessee Plant	Virginia Plant
Net Sales	$15,000,000	$15,000,000	$15,000,000	$15,000,000	$15,000,000	$15,000,000	$15,000,000	$15,000,000
Cost of Sales - Inclusive of Payroll Taxes	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000
Gross Profit on Manufacturing	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000
Selling General and Miscellaneous Expenses	750,000	750,000	750,000	750,000	750,000	750,000	750,000	750,000
Operating Profit Before Taxes	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000
State and Local Taxes	43,780	131,311	154,020	95,803	101,677	87,017	152,688	67,846
Profit Before Provision for State and Federal Income Taxes	2,206,220	2,118,689	2,095,980	2,154,197	2,148,323	2,162,983	2,097,312	2,182,154
State Income Tax	19,872	-	70,251	128,641	128,899	97,334	78,649	109,108
Profit After Provision for State Income but Before Federal Income Taxes	2,186,348	2,118,689	2,025,729	2,025,556	2,019,424	2,065,649	2,018,663	2,073,046
Federal Income Normal & Surtax	1,094,022	1,069,735	1,022,557	1,022,469	1,019,357	1,042,816	1,018,972	1,046,573
Profit After State and Federal Income but Before Excess Profits, if any	$ 1,072,326	$ 1,048,954	$ 1,003,172	$ 1,003,087	$ 1,000,067	$ 1,022,833	$ 999,691	$ 1,026,473
Equal to per Dollar of Sales	7.16¢	6.99¢	6.68¢	6.68¢	6.66¢	6.82¢	6.66¢	6.84¢
Summary of Taxes Paid								
State and Local Taxes	43,780	131,311	154,020	95,803	101,677	87,017	152,688	67,846
State Income	19,872	-	70,251	128,641	128,899	97,334	78,649	109,108
Federal Normal Income & Surtax	1,094,022	1,069,736	1,022,557	1,022,469	1,019,357	1,042,816	1,018,972	1,046,573
Total Taxes	$ 1,177,674	$ 1,201,047	$ 1,246,828	$ 1,246,913	$ 1,249,933	$ 1,227,167	$ 1,250,309	$ 1,223,525
Equal to per Dollar of Sales	7.85¢	8.00¢	8.31¢	8.31¢	8.32¢	8.18¢	8.33¢	8.15¢

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Wide Application

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★ preparing
★ dyeing
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Ben Hogan is three-time winner of the U. S. Open Golf Championship and the present title holder. He is called the greatest competitive golfer the game has ever known.

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The New Serfdom

By RINGGOLD ARDEN

DURING THE Middle Ages there was a class of persons who spent most of their time working for somebody else without pay. Persons belonging to this class were called serfs in some countries, and simply peasants in others. The poor serf literally belonged to his landlord, and was a fixture on the premises. He generally had a little piece of land which was nominally his, but actually belonged to the landlord or nobleman to whom the serf owed allegiance.

Every week when the weather was good, the serf had to work on the landlord's farm. When the weather was bad, he might be permitted to work on his own land. He was also subject to the landlord's call for many miscellaneous duties, and in order to tend his own patch of land, it was often necessary to work it by the light of the moon.

When the poor serf's little crop was gathered, the church tax collector got the first bite at it. The king's tax gatherer took a considerable nibble at what the church had left. If the serf was lucky, his local landlord would figure that he had got all that was coming to him out of the serf in work on his own land, and that if he took any more of his dwindling produce, the man would be too feeble to work on the landlord's estate when needed.

That these people had any rights, seldom occurred to anyone. They lived to serve those who had the power of levying tribute from them. Their long-smoldering resentment burst into flame in the French Revolution, and after that explosion, the oldtime serfdom gradually disappeared.

WE HAVE recently instituted a new form of serfdom. No distinguishing name has been applied to those on whom the new serfdom has been imposed, but many of them were once sarcastically termed "economic royalists." Almost anyone of intelligence and ability is likely to find himself fitted into this new order of serfdom.

The abler the man, the more completely he becomes enslaved in this system. In the case of an extraordinarily capable man, he works the first four days in each week for his master, the United States government. Everything that he produces in those four days is confiscated by this landlord. A part, or all, of the fifth day is devoted to satisfying the demands of other taxing agencies. Perhaps late Friday afternoon, he gets around to looking after provision for himself and family, and since he is a very high-class type of serf, he probably decides to look after his own business on Saturday, or maybe even on Sunday.

If this man becomes irked by his conditions of servitude, he is permitted a certain liberty of ac-

Faith in Tomorrow's Miracles

Most research in industry has three main objectives: (1) make it better, (2) make it cheaper, or (3) make something new. The textile industry is no exception in adhering to this pattern, but we still encounter many executives who either declare that they have no use for research in their particular phase of the business, or who think that they are supporting it only because it is "the thing to do."

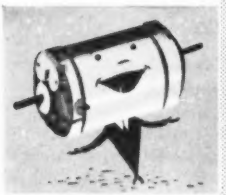
Nevertheless, a study of any part of their activities will usually reveal that whether they know it or not, they are sponsoring and even demanding some form of this necessary evil. The smallest yarn spinner who would not employ a trained textile technician or chemist even if he were a starving brother-in-law is very much research minded when he decides to look into larger spinning packages; and the old-fashioned weaver who would rather invest in a new lavatory in his office than in a modest testing laboratory in his mill is endorsing research when he decides to try a new warp sizing that may improve his weaving efficiency.

Too many people have already expounded on the differences between pure or fundamental and applied research. Suffice to say that regardless of whether it is pure or adulterated, applied or mis-applied, practical or impractical, most research is costly if you support it but expensive if you try to compete without it.

Faith in tomorrow's miracles depends on belief in today's research.

J. B. Goldberg, research director, J. P. Stevens & Co., Inc., before American Association of Textile Technologists.

four ways Dow Corning Silicones save money in the Textile Industry



class H insulation

Class H electrical insulation made with Dow Corning silicones is remarkably resistant to the severe operating conditions common to the textile industry. Class H insulated motors withstand overloads, moisture, high ambient temperatures and humid, lint-filled, corrosive atmospheres. They outlast Class B motors by ten times or more; pay off many times over in maintenance savings alone.

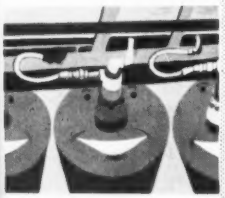
Take spinning bucket motors, for example. Subject to acids, chemical fumes and heavy starting loads, their service life ranges from a few days to a few months. Rewinding with Class H insulation extends their life span up to 24 times. Maintenance costs drop off as much as 90%. Savings over a three year period on spinning bucket motors alone in one plant amounted to over $20,000 a year.

DeCetex 104

DeCetex 104 gives synthetics and blends more durable water repellency than the best organic resin treatments—easier, faster, and at no increase in cost. DeCetex treated fabrics retain a spray rating of 90 to 100 after 10 dry cleanings; 80 to 100 after three 2-hour launderings.

Easily applied with conventional equipment, DeCetex 104 does not require washing or neutralizing. It contains no corrosive chemicals, and treated fabric remains odorless even after aging.

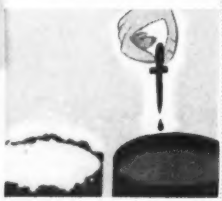
DeCetex 104 treatment imparts a high order of stain resistance and a soft, smooth "hand" with no increase in mark-off. Porosity, color; and color fastness are unchanged, except for a stabilizing effect on some materials.



silicone lubricants

Reduce production stoppages and high maintenance costs by eliminating bearing failure due to faulty lubrication. Dow Corning silicone oils and greases last at least ten times longer than the best high temperature organic lubricants, cut relubrication costs by as much as 90%.

Silicone lubricants are saving maintenance costs on such high temperature, high humidity bearing applications as tenter frames, conveyors, dryers and steam boilers. They have outlasted organic lubricants 10 to 1 in pipe line main stem valves; 50 to 1 in internal bearings in rolls and drying cans. For ball bearings operating at normal temperatures, Dow Corning silicone greases make permanent lubrication a practical reality.



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You'll get capacity production out of your finishing tanks and vats by adding Dow Corning Antifoam A to your solutions and using the space now being wasted on foam. That's because Dow Corning Antifoam A kills foam faster and in a wider variety of foamers than any other material known.

Production men have found it effective in many finishing solutions, including resin coatings, dye baths, fabric printing inks, and sizing materials ranging from starch to urea-formaldehyde. Only trace quantities are usually required to defoam some of the most violent and persistent foamers, even under continuous heat or agitation. One finisher, for example, defoams a 100-gallon tank of sizing solution with only 1/10 of an ounce of Antifoam A, or 3 parts per million.

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14th Annual Meeting of National Cotton Council

A 50 per cent increase in cotton textile consumption may be expected throughout the world in the next 25 years, if the long-term textile consumption trend continues, according to W. D. Felder, Jr., speaking at the annual meeting of the National Cotton Council at New Orleans, January 28-29. Approximately half of the increase in cotton textile consumption is expected from increases in population and half should be attributable to rising standards of living, according to Mr. Felder.

1952 Cotton Crop. The size of the 1952 cotton crop will be governed by assurances the farmer receives regarding available supplies and market conditions which make cotton production worthwhile. Harold A. Young, president of the National Cotton Council, stated further that emphasis should be placed on recognition of the costs and risks borne by the cotton industry in fulfilling the nation's requirements. The cotton producers of the nation last year increased their production by more than five million bales or 50 per cent, he declared.

Although the cotton industry met the nation's requirements in the period of emergency, the Council president emphasized that the expansion was not pleasant, safe, nor profitable for many producers; therefore additional recognition should be given to the risks of the producers.

World Cotton Outlook. Read P. Dunn, Jr., foreign trade director of the Council, said that a continuing heavy demand and a tight supply situation is the 1952 outlook for cotton on a world basis. Mr. Dunn told convention delegates that overall aspects of the cotton situation have changed sharply since early fall, and the world carryover of cotton at the beginning of this season was only 11 million bales, a record low in relation to consumption.

The cotton crop outside the U. S. is estimated at 17.8 million bales, about the same as last year. Despite prices last year, there was no appreciable expansion in cotton production anywhere in the world outside of the U. S., Mr. Dunn pointed out. Few people now expect all favorable factors to occur simultaneously; therefore the projected exports for cotton for another year should be cut back slightly below the 1951 season (approximately six million bales).

Statistics on Cotton Uses. Alonzo Bennett, chairman of the utilization research committee of the Council, commented on useful information to appear in "Cotton Counts Its Customers," the annual market study made by the National Cotton Council. Future editions of the study will contain two sets of estimates: (1) preliminary estimates, based on trend statistics and opinions, will be designed to show major changes in fiber consumption by markets; (2) final figures will be based on tabulations reflecting detailed changes in fiber consumption by markets. The procedure, Mr. Bennett concluded, will enable the Council to supply estimates which show significant market changes in fiber consumption and more accurate and detailed information on each use.

Hopi-Acala Cotton — 25% More Strength. Hopi-Acala, a cotton developed at the Shafter Experiment Station in California, can be spun into yarns having 25 per cent more strength than yarns from other cottons. Dr. Burt Johnson, fiber technologist, said that commercial tests definitely demonstrated the yarn strength advantage. In coarser yarns (7s to 17s) Hopi-Acala ran 32 per cent stronger than the average of the control yarns spun from several cotton varieties. In medium to fine count yarns, the test cotton was 24 to 25 per cent stronger.

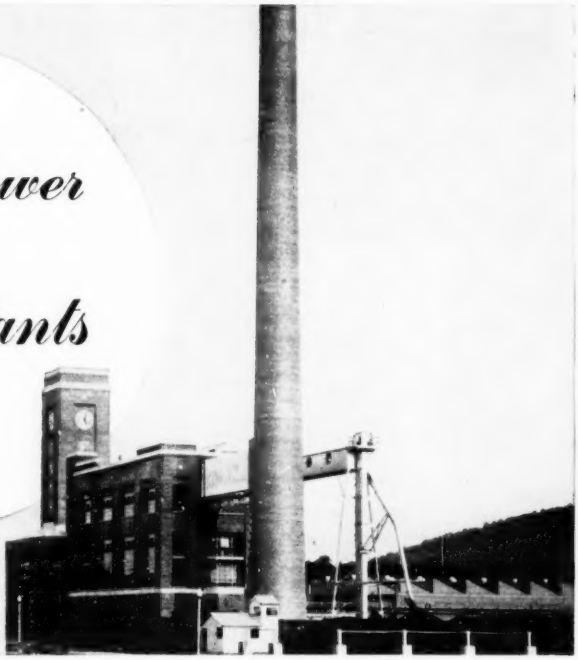
Cotton Research. The chemical industry is giving more attention to cotton research needs, according to George S. Buck, Jr., technical service director of the Council. By altering the basic structure of the cotton fiber, further improvements and extended uses are expected. Mr. Buck cited experiments which resulted in the development of a surgical dressing which can be sewn into wounds and left to be absorbed by the body. This aid to medicine was made possible by altering the structure of the cotton fiber to make it soluble in water. Another instance is the development of acetylated cotton laundry press covers [see "Partial Acetylation of Cotton," TEXTILE INDUSTRIES, January 1952, page 97].

tion which would have been denied to the old-fashioned serf. He can not be forced to labor, and by earning less for himself, he can also legally earn less for his economic master, the Government. This is often his only real claim to freedom of action.

Practically speaking, he is almost as firmly bound to the soil as his earlier counterpart in Europe. He is generally stuck with a job or a business that it is almost as difficult for him to change as it would have been for the oldtime serf to move from one job to another. The oldtime serf who was a skilled husbandman or artificer, was always more in demand for free services for the lord of the manor than his stupider brethren. The same situation exists with respect to the modern serf. The more capable he is, the more exorbitant become the demands of his liege lord, the government.

If the man is successful in running his own affairs, he might make an income which would be divided equally between himself and the tax collector. Should this man then by greater ability, and greater energy, double his income,

Textile Power and Steam Plants



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Number of Major Additions	over 200
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Steam is such an important part of many textile operations that "costs" are vitally important. Every cent per 1000 pounds that can be cut off costs is a big help. It avails little to design an impressively efficient manufacturing plant and not provide that plant with low cost power and steam. And a big help in designing the power and/or steam plant, is a fundamental understanding of textile manufacturing problems.

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the tax collectors are not content to double his tax, but must treble it. The more the man makes, the more grievous become the exactions of his economic overlords, until finally a man must work two weeks for the tax collector to have the privilege of working one day for himself.

The apology for this modern serfdom is the fact that its victims are never in any grievous want, or immediate danger of starvation. Those who have imposed these unreasonable exactions on the most capable of our citizens piously and hypocritically contend that so long as any man is permitted to keep a good living, it is reasonable and just for his government to confiscate the balance of his increase.

NO INTELLIGENT person can seriously contend that the actual amount of money extorted from this new class of serfs will have any serious effect on the federal government's finances. Some government official recently estimated that if all of the income after taxes of those making more than $100,000 a year were completely confiscated, the cash so collected would take care of the expenses of the government for only a few minutes each year. The ablest people in America are therefore held in economic bondage for no useful economic purpose.

This confiscation of income may serve some important political purpose in the furtherance of socialistic and communistic schemes for grading everyone down to one dead level of mediocrity, but tax extortion which deprives the individual of rights absolutely guaranteed to him under our original Constitution, and yet which serves the government in no substantial financial way, is an injustice urgently in need of correction.

The English have given us a very gruesome example of what confiscatory taxation can do to a country which was once the greatest commercial power on earth. Commerce and industry are built on accumulated profits. A business which can not make a profit, can not grow, except by victimizing investors. A business grievously overtaxed must of necessity victimize its customers. When the customers are in a position to resist this victimization, the business becomes moribund. When the increase of a business which should be plowed back into it to produce further increase is confiscated by taxing agencies, the business likewise becomes moribund.

The framers of our original Constitution were very careful in specifying that these discriminatory and confiscatory taxes should be unlawful. It was only when we amended the Constitution to permit the imposition of unlimited income taxes that the confiscation of a man's earnings became lawful in this country. Tax customs which have arisen out of that amendment have literally created a new order of peonage, or serfdom, in the United States. That the members of this order are prosperous peons causes the typical citizen to regard their plight with amusement and without sympathy.

The French peasant who was found with four pigs was considered well able to give one of them to the church, one to the king, and one to the local lord. This was what was known as "ability to pay." The possession of the pigs was prima facie evidence of ability to give them up to the tax gatherer. This hypocritical phrase, "ability to pay," has been greatly overworked by govern-

(*Continued on page* 245)

Evaluate Finishes on Basis of Fabric Performance—Nickerson

Evaluation of urea resin finishes on viscose rayon in terms of fabric performance as opposed to the more conventional analysis by resin retention tests was strongly urged by Dr. Ralph F. Nickerson of Monsanto Chemical Company when he recently addressed members of the Rhode Island section of the American Association of Textile Chemists and Colorists. He reported on a study of resin retention as a method of determining the efficiency of the resin treatment on the fabric.

Dr. Nickerson pointed out that the resin retention test, widely used for quality control and process evaluation purposes, has little real value in the case of viscose rayon. The standard test may not even measure the washfastness of urea formaldehyde resin reliably, he added.

The use of resin retention as a measure of process efficiency, Dr. Nickerson indicated, requires the assumption that retention is directly correlated with fabric performance properties—wash shrinkage, wrinkle resistance or fabric handle. His data, he said, showed that urea resin catalysts in general use, such as diammonium phosphate or catalyst AC, gave similar resin retentions under identical processing conditions.

However, under the same processing conditions, he continued, Catalyst AC imparted better shrinkage control to viscose rayon than the phosphate. This was interpreted to mean that the chemical analysis would not predict fabric performance. As a strict correlation between shrinkage control and resin retention was not found, the speaker stressed the need for evaluation of finishes on the basis of fabric performance.

The resin retention method is also objectionable, according to Dr. Nickerson, because it lacks precision, plus the possibility that substantial amounts of urea formaldehyde can be immobilized in viscose rayon without appreciable effect on fabric properties. Thus, it was suggested, fabric with poor performance might be unwittingly passed to the consumer because it showed good resin retention. Dr. Nickerson advocated a simple wash shrinkage test as a better method of evaluating the fabric and preventing customer dissatisfaction.

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EXCLUSIVE

Practical Terry Weaving and Designing

Article 5*

METHOD for calculating the weight of a dozen terry towels is presented in this the fifth article of the series by Mr. Hargreaves. Also discussed are: method for determining the let-off gear needed to deliver the required amount of pile yarn for the size loops desired; also simplified pegging instructions for dobby patterns.

By T. HARGREAVES
Superintendent, Caldwell Linen Mills (Canada)

IN A PREVIOUS article the details have been given for the weaving of a towel. From these data the weight of a towel from the loom can be calculated. The weight from the loom is called the "Standard Weight," and each cut of towels taken from the loom should be checked against this standard weight. A tolerance of about two ounces per dozen, light or heavy, is usually the maximum variance that should be allowed.

It is important that the weights be held very close to the standard weight previously set because a great deal of money may be lost if the weights are consistently heavy. Light weights may make for claims against the company.

It is very difficult to hold the weight of terry towels constant because a slight deviation from the standard height of the loops will make a compounding change in the weight. The counts or numbers of the yarns going into the towel must also be regularly checked if the weight of the towel is to be held near the standard set.

From the average numbers as determined by continuing checks, the average variation which should result in the weight from the loom can be determined. If the yarns are dyed before weaving, the loss in weight during dyeing should be carefully determined and this loss taken into consideration when setting the standard weight from the loom.

Calculating Standard Weight. To illustrate the calculation of Standard Weight let us assume the following data:

1. Loss in weight due to dyeing is 10%.
2. Contraction during weaving of ground ends is 6%.
3. Contraction of pile ends when weaving plain tabs is 6%.
4. Size of 1½% on pile ends; 8% size on ground ends.
5. Terry loop is a 4.9 times loop. (This is the relation or ratio of terry yarn fed to length of cloth woven. This ratio is usually stated as a 3, 4, 5, or 6 times loop. For a 4.9 times loop, this means that for every inch of cloth woven, 4.9 inches of pile yarn will be used to produce the loops. On the terry loom there is a let-off gear which controls the delivery of pile yarn. This gear delivers, at each third pick, sufficient extra length of pile yarn to produce the height of loop desired.)
6. The total length of terry cloth per towel is 40.5 inches.
7. The total length of plain tabs per towel is 4.5 inches.
8. The total length of the towel is then 45 inches.
9. The average counts (number) of the yarns has been determined to be 2% on the heavy side.
10. Number of pile ends in towel is 612.
11. Number of ground ends in towel is 684.

The calculations to determine the standard weight of a dozen towels would then be made as follows:

1. **Weight of pile yarn in the terry portion of one dozen towels (being all undyed yarns) is:**

$$\frac{\text{No. pile ends} \times \text{inches of terry} \times \text{loop} \times 12 \text{ towels} \times 1.02 \text{ (counts variation)}}{840 \times 36 \text{ inches/yard} \times \text{standard counts}}$$

$$\frac{612 \times 40.5 \times 4.9 \times 12 \times 1.02}{840 \times 36 \times 16s} = 3.1175 \text{ lb}$$

2. **Weight of pile yarn in plain tab portion of one dozen towels (being all undyed yarns) is:**

$$\frac{\text{No. pile ends} \times \text{inches plain tab} \times (1 \text{ plus contraction}) \times 12 \text{ towels} \times 1.02}{840 \times 36 \text{ inches/yard} \times \text{standard counts}}$$

(Please turn the page)

*Articles 1, 2, 3, and 4 appeared in the September, October, December and January issues, respectively.

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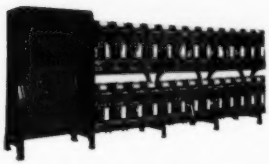

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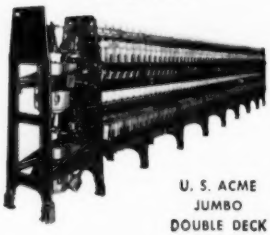

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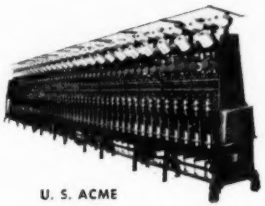

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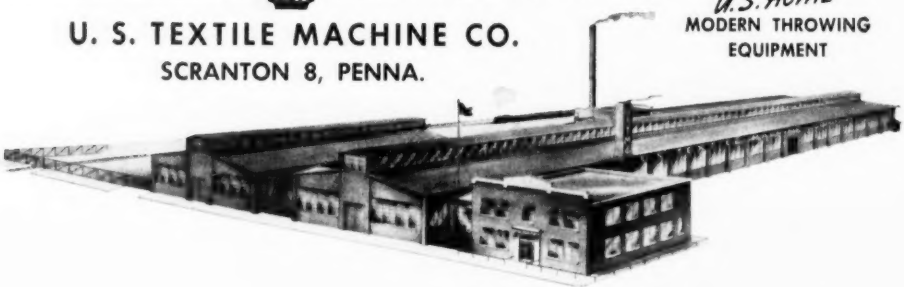

Weight of pile yarn in plain tab portion (continued from page 169)

$$\frac{612 \text{ ends} \times 4.5 \text{ in.} \times 1.06 \times 12 \text{ towels} \times 1.02}{840 \times 36 \text{ in./yd} \times 16\text{s counts pile warp}} = .0739 \text{ lb}$$

3. **Weight of ground warp yarn in one dozen towels (being all undyed yarns) is:**

$$\frac{\text{No. ground ends} \times \text{inches of towel} \times (1 \text{ plus contraction}) \times 12 \text{ towels} \times 1.02}{840 \times 36 \text{ in./yd} \times \text{standard counts}}$$

$$\frac{684 \text{ ends} \times 45 \text{ inches} \times 1.06 \times 12 \text{ towels} \times 1.02}{840 \times 36 \text{ in./yd} \times 14\text{s ground warp counts}} = 1.1852 \text{ lb}$$

4. **Weight of filling yarn in one dozen towels (1926 picks per towel) (1698 filling picks being all dyed yarns) is:**

$$\frac{\text{Width in reed} \times \text{picks/towel} \times 12 \text{ towels} \times 1.02 \text{ (allowance for heavy yarns)}}{840 \times 36 \text{ in./yd} \times \text{standard counts}}$$

$$\frac{26.25 \text{ in.} \times 1926 \text{ picks} \times 12 \text{ towels} \times 1.02}{840 \times 36 \text{ in./yd} \times 14\text{s filling counts}} = 1.4617 \text{ lb}$$

5. **Add 1½% for size on weight of pile yarns:**
$(3.1175 \div .0739) \times .015 = .0478$ lb

6. **Add 8% for size on weight of ground warp yarns:**
$1.1852 \text{ lb} \times .08 = .0948$ lb

7. **Total standard weight for cost purposes** = 5.9809 lb

8. **Less loss in weight of filling yarns due to dyeing (10% on 1698 picks of the 1926 total picks)** = .1288 lb.

9. **Actual standard weight of one dozen towels from the loom** = 5.8521 lb.

10. **Yards of Cloth per pound.** 45 inches per towel × 12 towels ÷ 36 in./yd = 15 yards of cloth per dozen towels; 5.8521 pounds ÷ 15 yds = .3901 lb/yd cloth; 15 yds ÷ 5.8521 lb = 2.5632 yds cloth/lb.

11. **To determine the weight of one dozen towels after bleaching:**
   a. All the size will be lost: .0478 + .0948 = .1426 lb.
   b. Approximately 7% of the yarn weight will be lost: 3.1914 lb pile yarns + 1.1852 lb ground warp + 1.3329 lb filling (1.4617 — .1288) = .3996.
   c. Total loss in bleaching = .5422 lb.
   d. Approximate weight of one dozen bleached towels: 5.8521 lb — .5422 lb = 5.3099 lb.

Method of calculating the let-off gear needed to deliver pile yarn to form the size loop desired

During its passage from the pile warp beam to the cloth, the pile yarn is controlled, held, and delivered by two rollers. These rollers are about three inches in diameter (usually 8¾ inches in circumference). The yarn is held tight by these rolls so that one complete revolution of the rolls will deliver a known quantity of yarn. On the shaft on one of these rolls is mounted a ratchet-toothed gear which is turned by a pawl and is so connected that it is operated every third pick. This ratchet-toothed gear is known as the Pile Warp Let-Off Gear. It is changeable and may contain from about 24 to 64 teeth. The let-off gear is usually mounted in such a way that the pawl will move it two teeth at every third pick.

If the rolls are 8¾ inches in circumference and the gear is moved two teeth every three picks (three teeth of pick gear) then the ratio of the pick gear to the let-off gear would be $8\frac{3}{4} \div 3 \times 2$ or 70/12. Then suppose the loom is equipped with a 42-tooth pick gear and a 50-tooth pile yarn let-off gear. With this arrangement the ratio of pile yarn to one inch of cloth would be calculated as follows:

$$\frac{\text{42-tooth pick gear}}{\text{50-tooth let-off gear}} \times \frac{70}{12} = \text{4.9 inches pile yarn/inch cloth}$$

The cloth is then called a 4.9 terry loop cloth.

The figure of 4.9 has no relation to the height of the loop in the cloth; it is only the length of pile yarn required to weave one inch of cloth. In the foregoing example, if there are 42 picks per inch, then there will be 14 (which is 42 divided by 3) terry loops per inch. If the 4.9 inches of terry yarn must make 14 loops, then each loop will contain 4.9 divided by 14 or .35 inches of yarn. But, of course, the height of the loop is only about one-half of the length of the loop; therefore, the loop height will be .35 divided by 2 or .175 inches.

Suppose the pick gear is changed from 42 to 56 teeth, keeping the same 50-tooth let-off gear. Then the loop would be 6.5333

$$\left(\frac{\text{56-tooth pick gear}}{\text{50-tooth let-off gear}} \times \frac{70}{12}\right)$$

But a 56-tooth gear would put 56 picks per inch in the cloth, thus forming 18.67 loops per inch. Then 6.5333 inches of pile yarn divided by 18.67 loops would still allot .35 inches of pile yarn to each loop for a loop height of .175 inches, the same as before.

If the height of the loop is to be increased, it is necessary to reduce the number of teeth in the let-off gear. In a like manner, an increase in the number of teeth in the let-off gear will decrease the height of the loop.

The foregoing calculation can be very easily changed to fit any given condition if it is remembered that the circumference of the rolls must be taken into consideration and the number of teeth in the let-off gear moved by each movement of the pawl is used.

Simplified Pegging Instructions for Dobby Patterns

Herewith is explained a simplified method of indicating the pattern to be pegged on a dobby pattern chain when pegging for a terry weave. As seen, it is now necessary to put the terry pattern (chain draft) on design paper. Instead of using design paper, all that is needed is to have a horizontal line to indicate each harness to be used.

As an example of this method let us refer to Figure 10 in the second article of this series (See TI for October 1951, page 135) and show the pegging instructions for Dobby Cylinder No. 1 (Fig. 10B). The chain draft or lifting plan shows that there are six harnesses required for the pile ends and four harnesses for the ground weave, and that the pattern is complete on 36 picks or 12 terry weave cycles. Then ten horizontal lines are drawn and numbered one to ten to correspond with the position of the harnesses in the loom as shown in box on next page.

The numbers of the line for the No. 1 harness indicate that the number one line of holes in the bars should be pegged to produce six terry loops on the face of the goods and then six terry loops on the back of the goods. It will be remembered that for the three pick

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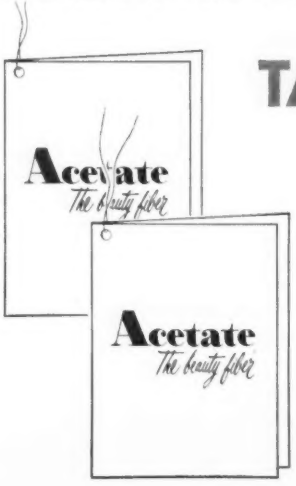

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terry weave cycle, the pile end must weave up, down, up, to produce a loop on the face; and, down, up, down, to weave a loop on the back. Therefore, for the first 18 bars, the number one line of holes in each bar is pegged-missed-pegged in sequence for six times. Beginning with the 19th bar the number one line of holes is missed-pegged-missed in sequence for six times.

For the No. 2 harness the numbers indicate that the number two line of holes in the bars should be pegged to produce two terry loops underneath, six terry loops on top, then four terry loops underneath. This means then that for the first six bars the sequence will be miss-peg-miss for two times; for the next 18 bars the sequence will be peg-miss-peg for six times; for the last 12 bars the sequence will be miss-peg-miss for four times.

For the No. 3 harness the numbers indicate that the number three line of holes in the bars should be pegged to produce four terry loops on the back of the cloth, six terry loops on the face, then two terry loops on the back. Then this line of holes will be pegged as follows:

For 12 bars the sequence will be miss-peg-miss, for four times; for the next 18 bars the sequence will be peg-miss-peg for six times; and, for the last 6 bars the sequence will be miss-peg-miss for two times.

The No. 4 harness is shown to be the reverse of the No. 1 harness which means that for the first 18 bars the sequence will be miss-peg-miss for six times, and for the last 18 bars the sequence will be peg-miss-peg for six times.

The No. 5 harness is the opposite of the number two harness, therefore for six bars the sequence will be peg-miss-peg for two times; the next 18 bars will be miss-peg-miss for 6 times; and, the last 12 bars will be peg-miss-peg for 4 times.

For the No. 6 harness, which is the opposite of the number three harness, the sequence will be: 12 bars peg-miss-peg for 4 times; 18 bars miss-peg-miss for 6 times; and, 6 bars peg-miss-peg for two times.

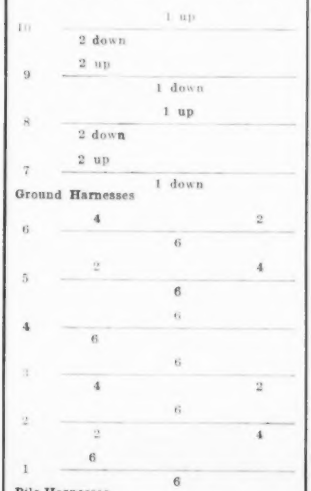
Harnesses Nos. 7, 8, 9, and 10 are for the ground weave which never varies from the standard 2-1 warp rib weave. Inasmuch as harnesses numbered 7 and 9 are exactly alike, the number 7 and 9 lines of holes should have the sequence peg-peg-miss for 12 times or 36 bars. Harnesses Nos. 8 and 10 are also alike and weave opposite to harnesses Nos. 7 and 9. Therefore the number 8 and 10 lines of holes should have the sequence miss-miss-peg for 12 times or 36 bars.

This simplified system not only makes it easy to peg the cylinder chain, but greatly facilitates the checking of the chain or reading the pattern from the chain after it has been completed.

(To be continued)

Simplified Pegging Instructions

(Read from bottom up)



Winding Slippery Yarn on a Drum Winder

Because the winding package on a drum winder is driven by frictional contact between the surface of the package and the driving drum, slick or slippery yarns are difficult to process—insufficient traction is obtained between the smooth roll and the slippery yarn. Consequently, the drum cannot drive the take-up spindle fast enough to maintain the correct relationship between the traverse and spindle speeds.

Mills winding yarn on the Universal Winding Co. "Roto-Coner" find that the problem is solved by using a knurled metal traverse. Light serrations around the circumference of the cast iron traverse offer a tread for the cone to drive upon and provide the traction needed.

Two different groove arrangements can be obtained on the knurled traverses which are available from Universal: "2 turns, uniform" for tubing; "2½ turns, full-accelerated" for coning.

Cotton Exchange Booklet Explains Hedging

The New York Cotton Exchange has released a new brochure "Cotton and Cotton Futures" for distribution. Published in response to demand from the cotton trade, textile interests, agricultural organizations, and schools of economics and business administration, the booklet was prepared by the New York Cotton Exchange in collaboration with the A. French Textile School of Georgia Institute of Technology and the Philadelphia Textile Institute.

It gives a condensed story of cotton, its production, merchandising, processing and distribution of the finished materials; also explained is the functioning of a futures exchange and services of the New York Cotton Exchange.

Since many of the booklets will be distributed to educational institutions, special attention was given to explaining the basic principles of hedging. There are included examples of "hedges" used by the producer, merchant, and the mill.

Always Uniform

Starch, as well as golf balls, requires precision control in every manufacturing step to maintain unvarying high quality.

That's why over the years Victor Mill Starch has become known far and wide as "The Weaver's Friend."

Victor provides better penetration, stronger warps, smoother surface, less shedding, fewer slashing problems. Rely on it . . . and the Keever man who serves you.

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1200 WOODSIDE BUILDING
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THE KEEVER STARCH CO. ★ GENERAL OFFICES ★ COLUMBUS 15, OHIO

Corn, wheat and other grain products for industry since 1898

• Letters to Editor • Technical Discussion •
• Manufacturing Briefs • Kinks & Shorts Cuts • Comments from Readers •

The articles appearing in this department, like those in the feature section on which the "Exclusive" symbol appears, were prepared exclusively for TEXTILE INDUSTRIES.

Kinks are paid for at regular space rates, and an additional $100 is awarded the winner in each contest. See announcement at bottom of this page for details of current contest.

Selective Battery System for Making Multi-Color Fabrics

This item was submitted in a kink contest.

EDITOR TEXTILE INDUSTRIES:

Many types of decorative fabrics need not be confined to the ordinary limitations of a single shuttle in Draper looms, and four shuttles in box looms need not be the maximum filling colors if use is made of the selective battery filling method outlined below.

The method essentially consists of loading the battery or magazine with several colors of filling according to a predetermined pattern or arrangement. It works best on wide goods using coarse filling in that there will be a change of filling at frequent intervals in the cloth.

I first tried this method on cotton blankets woven with four shuttles on a 4x1 loom. On this fabric, one shuttle serves as a ground shuttle, the other three being alternated according to the needs of the pattern. The filling is inserted, two picks ground color; two picks figure color.

It was determined that one color shuttle of the ground filling ran for about six to eight inches of cloth. This was not too long to obtain a good rainbow effect in the ground. Therefore instead of using all filling quills of the same color in the magazine, the filling quills were loaded in the magazine slot in a predetermined order.

The color layout made a blanket with a ground color of blue graduated from dark blue to pale blue and back again to dark blue. The same system can be used to produce a complete color line in graduated shades of all ground colors. Also this method can be extended to more than one of the magazine slots to produce a truly variegated color effect. In one instance the filling quills were loaded as follows:

1 shuttle dark blue
1 shuttle medium blue
1 shuttle light blue
1 shuttle pale blue
1 shuttle light blue
1 shuttle medium blue

Total 6 shuttles in repeat.

This arrangement can be further elaborated by using additional shades of the same color. The less variation there is between shades the more subtle the finished effect will be.

The same method can be used on a Draper loom by loading the battery with a range of colors in a pre-determined order. The result is very effective on bedspreads, drapery fabrics, dress goods, terry towels, and many other decorative fabrics, especially when used in combination with a striped warp.

The system provides no positive control over the number of picks of each shade of color. This will be governed by the number of yards per quill, and occasional "knock-outs" of quills will result in narrower bands of color in that particular place. The whole effect will

KINK CONTEST!

15 minutes of your time may be worth $100

This contest ends March 15, 1952.

EVERY kink, short-cut, time-saver, or quality improvement suggestion entered in the contest will be paid for immediately upon acceptance. The $100 award will be made as soon as all entries are received.

The contest rules are simple:

All contributions must be postmarked not later than midnight, March 15, 1952.

A photo or rough sketch will make your entry more valuable, but if you don't have either, send us your kink anyway.

Send your contest entry to: Editor TEXTILE INDUSTRIES, 806 Peachtree Street, N. E., Atlanta 5, Georgia.

Don't give fire a FIGHTING CHANCE!

Here's why you get greater fire-killing punch . . . and more safety for the fire fighter . . . with a Kidde Dry Chemical Extinguisher:

The Kidde Extinguisher with its patented Diffuser Horn blankets the danger area with a cloudlike pattern of dry chemical. The chemical absorbs heat and sets up a cool "wall" between the operator and the fire. That makes it possible for even an inexperienced operator to cover a greater area. Danger from splashing of burning liquids is reduced.

For extra speed, efficiency and safety . . . insist on Kidde Portable Fire Extinguishers.

The word "Kidde" is the trade mark of Walter Kidde & Company, Inc., and its associated companies.

Walter Kidde & Company, Inc., 390 Main Street, Belleville 9, N. J.
Walter Kidde & Company of Canada, Ltd., Montreal, P. Q.

Kidde

be a random or hand-woven coloring rather than the meticulous spacing of colors formed in the usual box loom pattern.

It should be quite feasible to set up a feeler release mechanism to be activated by the dobby or Jacquard on the loom and to change the shuttle after inserting a given number of picks. This would give some measure of control on the spacing of each color and allow a definite filling pattern to be woven. The extra waste of filling entailed should be more than compensated by the richer coloring obtained in the fabric.

CONTRIBUTOR No. 8442

Card and Drawing Sliver Regularity Discussed

Question Briefed: *I should like to start a discussion on the reason, or reasons, for the increase in variation in the sliver after it leaves the cards. Everyone admits that drawing sliver is more uneven than card sliver, but I have never seen a satisfactory explanation as to why this is true.* (CONTRIBUTOR No. 8303, *September*, 1950.)

EDITOR TEXTILE INDUSTRIES:

In attempting to explain the reasons why card sliver is usually found to be more regular than drawing frame sliver, it is necessary to consider the construction of each sliver.

As the web comes from the card doffer, it is composed of a mass of fibers all crossed and interlocked with each other, and in this condition it is formed into a sliver and coiled into a can. At the card doffer the sliver has had only enough tension on it to keep it from sagging between the doffer and front calender rolls, and front calender and coiler calender rolls. Therefore, the construction is the same as it was when the web left the doffer. There will be practically the same number of fibers, and their relation, inch-for-inch, will be the same as the stock passes through the sliver tester. The tester should show a fairly even line on the chart.

Upon examination, drawing sliver appears entirely different in so far as the position and lay of the bulk of the fibers is considered. The fibers have been straightened lengthwise of the sliver and laid almost parallel to each other by the action of the machine on the tangled mass of carded fibers fed to it. In the process of attaining the proper relation of the fibers, several functions occur, and a few elements exist which tend to upset the regularity of the card sliver.

For example: six ends of card sliver, weighing 56 grains per yard each and making a total of 336 grains per yard, are fed into a drawing frame. The six ends of card sliver must be reduced to a 62-grain single sliver; therefore, assuming the drawing frame is a four-roll machine, there are three drafting zones in which the bulk and weight are changed. Finally there is a slight tension draft between the front rolls and calender rolls. In other words the six card slivers have been drafted and the weight reduced to the ratio of 5.4 to 1. In order to keep irregularity to a minimum, careful planning should be given to the draft re-

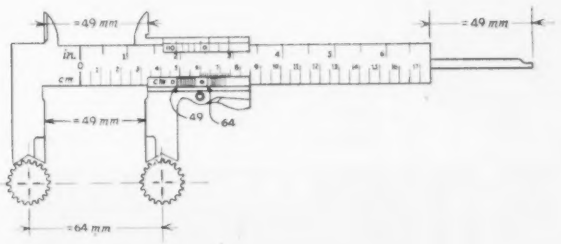
Altered Caliper Measures Roll Space

EDITOR TEXTILE INDUSTRIES:

A conventional caliper rule may be altered to measure drawing, roving, and spinning frame rolls and the space between the rolls. The caliper rule may be graduated in millimeters (metric system) and inches with subdivisions thereof.

I worked out an arrangement whereby the zero mark coincides with the 15 mm mark on the rule. The additional scale on the sliding jaw indicates the distance between the centers of the jaw legs. The accompanying sketch shows how the apparatus would be used to measure the space between two draft rolls, and the indicated space in this instance is 64 mm on the metric scale.

CONTRIBUTOR No. 8425
(foreign)



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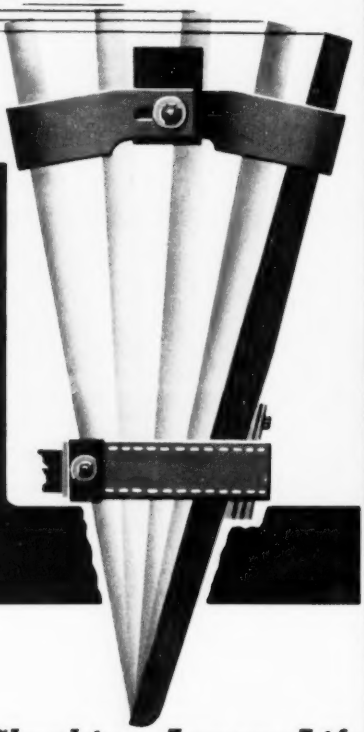

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...for Smoother Checking, Longer Life

When textile mills ask *why* Rhoads Bicut Check Straps last longer, offer smoother loom operation . . . we answer: because its exclusive design conforms to the arc of the picker stick. By checking the picker stick uniformly, Bicut straps outlast and outperform other straps. Another reason is: Bicut straps are accurately cut from leather specially tanned and curried to give them the desired toughness and flexibility, with the proper degree of resiliency to resist repeated shock and hard wear. You may test the Bicut Check Strap on your loom by contacting your Rhoads' sales engineer. Bicut Check Straps are available in a variety of weights to suit the width of your looms and the fabric being woven.

New textile leathers folder illustrates and describes the varieties of Rhoads leather products. Write J. E. Rhoads & Sons, 35 N. Sixth Street, Philadelphia 6, Pa.

*Trade Mark Reg.

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NEW YORK • CHICAGO

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J. E. RHOADS & SONS REPRESENTATIVES TO THE TEXTILE INDUSTRY

C. R. Mitchell

A familiar figure to many textile men, "Bob" Mitchell is the manager of the Southern Sales District and the Atlanta Sales Office at 88 Forsyth Street, S. W.

L. H. Schwoebel

With 29 years' experience in the application of leather in the textile industry, Lou's territory covers the states of Virginia and North Carolina.

J. W. Mitchell

Brother of C. R. Mitchell, Warren Mitchell is a familiar figure among the textile men of South Carolina, Georgia and parts of North Carolina.

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Representative of J. E. Rhoads & Sons to the textile mills located in Georgia, Florida and Texas with 22 years' experience serving the industry.

A. S. Jay

Always ready to lend a hand to help solve the problems of Southern textile men, Sid Jay covers Alabama, Mississippi, Arkansas, and Tennessee.

quired in each zone to prevent plucking or chopping the slivers as they pass through the machine.

Roll settings play an important part in producing even sliver on drawing frames. If the roll settings are too wide, a cloudy and weak web is produced. If the roll settings are too close, a choppy and irregular web is produced. The roll settings depend entirely upon local conditions and the stock being run, and these factors vary in different mills. The only way to ascertain correct roll settings is by trial and error, whereby each mill may keep draw frame sliver irregularity to a minimum.

Sliver irregularities may occur on drawing frames between front rolls and the calender rolls; at this point it is important to maintain the correct tension on the web. If there is too much tension, the selvages become broken and ragged, and if there is not enough tension, the stock tends to turn over and double up as it reaches the trumpet. In my opinion, an even tension is more difficult to maintain on metallic rolls than on common rolls. The difficulty may be caused by worn spacer collars on the rolls.

In answer to the questions asked by CONTRIBUTOR No. 8303, regarding fewer doublings of heavier card sliver, I must say that, all other conditions being the same, the same bulk would be presented to the drawing rolls in producing the same end results. The fibers would be subjected to the same actions as those described heretofore; however, whether or not heavier card sliver would be helpful in reducing irregularity may be proved only by experimenting.

Another question to consider is whether common rolls, with their frictional or sliding drafting action, would produce a more uniform drawing sliver than metallic rolls with their more positive drafting action.

Excessive front roll speeds may adversely affect the quality of the web produced as much as slow speeds affect the quantity.

Irregularities in drawing frame slivers present problems which may always remain controversial; however, I hope that this attempt to bring forth some of the causes may prove helpful in some way.

JAMES B. SHIPPERBOTTOM

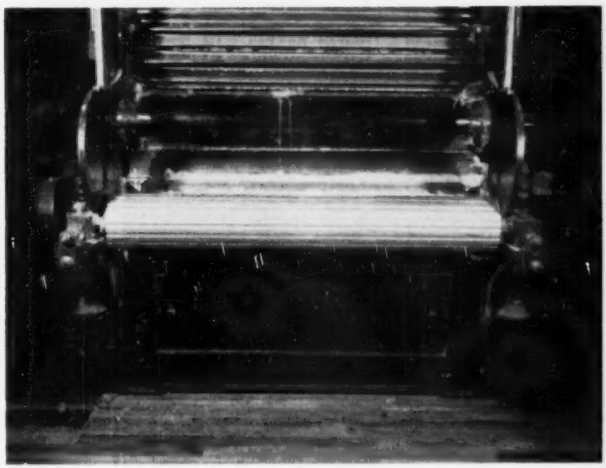
◆

EDITOR TEXTILE INDUSTRIES:

The process of drawing sliver through a series of rolls tends to make the sliver even on an overall length basis, but it will be uneven on an inch-to-inch basis.

Having been curious about the same phenonema as outlined by CONTRIBUTOR No. 8303, I arranged a test as follows: I took one can full of card sliver and another full of drawing sliver (run from the same card and the same lap) and ran both through the sliver tester. The tester showed that the standard short length variation factor was much higher for the drawing frame sliver than for the card sliver. The two slivers were reeled into ten-yard lengths and weighed. The drawing sliver was found to vary much less than the card sliver in weight and averaged right on the button, but the yard-to-yard weight of the card sliver varied considerably.

The test convinced me that the



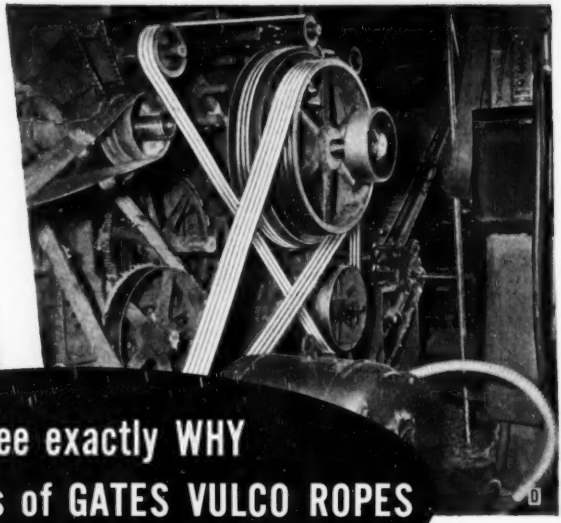
Paint Card Lap Rolls—Eliminate Break-Backs

A COAT of aluminum paint on card lap rolls has virtually eliminated break-backs at Veteran Mills near Calhoun, Georgia.

When the new cotton cards were started up in 1946, an excessive number of laps broke out. The tender noticed that this usually occurred when the laps were small in diameter.

After considerable study of the condition it was discovered that as the laps decreased in diameter and weight the traction between that lap and the lap roll was reduced to the extent that the weight of the pin was sufficient to cause it to break back. If some method could be devised whereby better traction could be obtained, the break-backs could be reduced.

Someone suggested painting a lap roll with aluminum paint to provide a surface not quite so slick. The results of the experiment were highly satisfactory. Consequently, all of the card lap rolls at this mill have been painted as shown in the accompanying photo.



Gates Vulco Ropes—replacing flat belts on this Garnett machine—saved Bender Bros., Inc., of Camden, N. J. over $1,000 a year in maintenance expense.

Let's see exactly WHY the Concave Sides of GATES VULCO ROPES mean lower V-Belt Costs!

Every engineer knows how a V-belt *changes shape* when it bends around a pulley.

The top of the belt is under tension—making it grow *narrower.*

The body is under *compression,* causing the sides to bulge out!

Look at figure 1-A in the diagrams, herewith. There you see how a *straight sided* V-belt is forced to bulge in its sheave-groove—and this bulging naturally causes extra wear along the middle of the sides as indicated by the arrows.

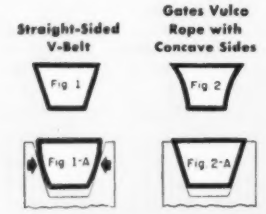
Now look at the figure 2-A. There you see how the precisely engineered Concave Sides fill out to an exact fit in the sheave groove.

Clearly, the Concave Sides press *evenly* against the V-pulley. This means uniform wear; longer life! The Concave Sides have *full traction;* wear longer because of *full contact!*

To sum up: The Concave Sides of Gates Vulco Ropes (U.S. Patent No. 1813698) give you (1) Less wear, (2) More pulley contact, (3) More sure power transmitted when needed!

Only V-belts made by Gates are built with concave sides. Whenever you buy V-Belts, be sure you get the V-Belt with the Concave Sides—The Gates Vulco Rope!

What Happens When a V-Belt Bends



How Straight-Sided V-Belt Bulges in Sheave-Groove. Sides Press Unevenly Against V-Pulley Causing Extra Wear At Point Shown by Arrows.

The Concave Sides Fill out to a Precise Fit in the Sheave Groove. No Side Bulge! Sides Press Evenly Against the V-Pulley—Uniform Wear—Longer Life!

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drawing process definitely decreases the yard-to-yard variation in the sliver but at the same time the inch-to-inch variation is increased. My conclusion stands to reason because if a heavy sliver and a light sliver are condensed together, the yard-to-yard weight would be an average of the two and would be more even due to the drawing action.

The drawing action of the rolls on a drawing frame cannot place the minute variations in each inch of the sliver in the specific spot necessary for a thick place to neutralize a thin place, and the thick and thin places coincide at random. Consequently the inch-to-inch variation, as shown on a sliver tester, is increased in the drawing process, and the yard-to-yard variation is decreased.

I have found that running as heavy a card sliver as feasible will tend to decrease the inch-to-inch variation of drawing sliver; also, that a draft slightly higher than the number of ends up on the drawing frame tends to decrease the variation in drawing sliver. I do not believe that running a heavier card sliver with fewer doublings would help to decrease variations. In this instance the decreased inch-to-inch variation would undoubtedly be nullified by increased yard-to-yard variation.

Possibly an increase in weight of sliver all the way through processing might tend to decrease variation slightly. In comparing two-process drawing with single-process drawing, the second process of drawing definitely decreases the yard-to-yard variation but the inch-to-inch variation is higher when tested on a roving tester. The choice lies in deciding which of the defects is the lesser of the two evils.

Since the advent of roving and sliver testers the trend has been to decrease the inch-to-inch variation at the expense of the yard-to-yard variation. The adoption of single-process drawing by many of the better mills is evidence of the trend. CONTRIBUTOR No. 8398

Table Permits Standard Nep Counting Method

EDITOR TEXTILE INDUSTRIES:

In the "News in Brief" section of a recent issue of your magazine there was some comment on standard nep counting methods. We have been aware of the confusion in nep counting in the mills for some time, and in some cases the management was reluctant to even mention neps because they seemed to feel that they were not counting neps in the correct manner.

Apparently there is a great need for some type of standardization in nep counting methods, and I believe that the accompanying table may help toward this solution.

Some years ago the Production Marketing Administration, Cotton Branch, proposed that 180 square inches of card web be used as a standard on 40-grain sliver. The reason the 180 square inches were chosen was that on using 4x9 in. velvet covered nep boards, five boards would give the 180 square inch figure; however, many mills will not use this weight of sliver, and as a result no common basis is available.

I believe our count on the 100 square inch, which is arrived at by taking five counts on 50 square inch nep boards and reducing it to the 100 square inches, is used a good deal in industry.

By using the table it is possible to refer all weights of sliver back to the 40-grain standard basis. Such a procedure will put the nep count on a weight basis, and it seems to me will eliminate a great deal of confusion.

We owe this idea in the table to Herbert E. Kieke, our spinning laboratory superintendent, who has found it an excellent way to standardize nep count.

LYLE E. HESSLER
Research Associate
Cotton Research
Texas Technological College
Lubbock, Texas

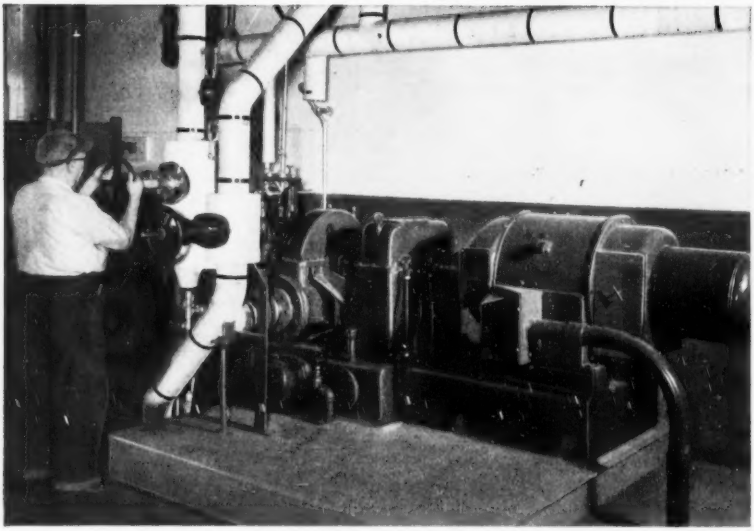
STANDARDIZATION OF NEP COUNT

Sliver		Ratio Neps	Sliver		Ratio Neps
Grains	Grain in 100 square inches	Referred to 40 grain sliver	Grains	Grain in 100 square inches	Referred to 40 grain sliver
35	2.41	0.873	49	3.38	1.224
36	2.48	0.898	50	3.45	1.250
37	2.55	0.923	51	3.52	1.275
38	2.62	0.949	52	3.59	1.300
39	2.69	0.974	53	3.66	1.326
40	**2.76**	**1.000**	54	3.73	1.351
41	2.83	1.025	55	3.80	1.376
42	2.90	1.050	56	3.86	1.398
43	2.97	1.076	57	3.93	1.423
44	3.04	1.101	58	4.00	1.449
45	3.10	1.123	59	4.07	1.474
46	3.17	1.148	60	4.14	1.500
47	3.24	1.173	61	4.21	1.525
48	3.31	1.199	62	4.28	1.550

EXAMPLE:

40 neps from 57 grains sliver

Thus $\frac{40}{1.423} = 28.1$ calculated on the basis of a 40 grain sliver.



Co-ordinating power generation with process-steam production is justified by the economics of the dyeing operation at Fruit of the Loom, Pontiac Division's print works. This 100-kw G-E turbine-generator furnishes all the d-c power needed for the plant's open soaper range drive, and also exhausts low-pressure steam for process heating. On the right of the turbine are the d-c generator and its exciter. Shown in photo is Clarence Frey, plant power engineer.

FRUIT OF THE LOOM PLANT INSTALLS G-E TURBINE-ELECTRIC RANGE DRIVE to cut dyeing costs

Utilizes available steam to drive G-E turbine-generator powering continuous dyeing range

Here is a case where the constructive help of a General Electric textile-mill specialist enabled a company to obtain power for its continuous dyeing range at really low cost. It's the Fruit of the Loom, Pontiac Division, at Pontiac, R. I., where the dyeing process includes an open soaper driven by nine G-E gear-motors. Since steam for process needs was available in quantity, the G-E representative suggested taking advantage of this fact by using a steam turbine.

Recently installed, this G-E turbine takes steam at 215 pounds gage to run a d-c generator that powers the G-E gear-motors. The turbine's exhaust steam, at 25 pounds gage, is then used to heat dyes and for other process uses. Result: power for the drive motors, at very low cost!

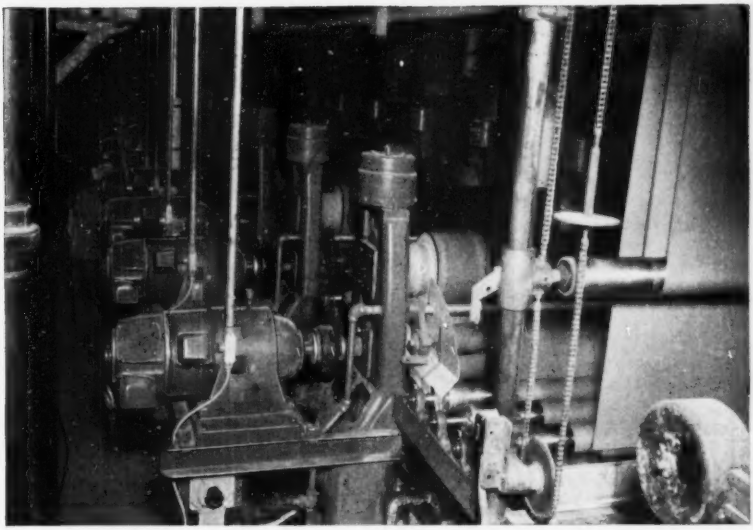
If *your* textile mill has available steam at 90 pounds gage or more, and additional low-pressure process steam is needed, a G-E turbine-electric range drive may well apply to your operation. Like all G-E range drives, it offers wide speed ranges, easily controlled over-all speed, operating flexibility, close co-ordination of all motor speeds, and modern electric braking systems—for most efficient range operation!

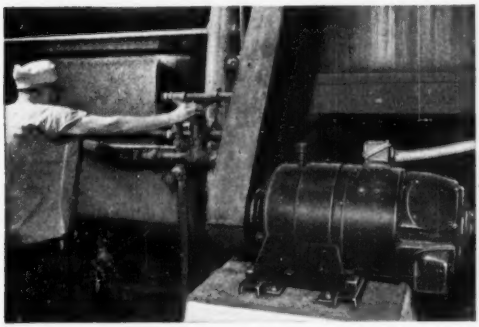
Whether you're planning a complete new range, or converting to range operation, a G-E textile-mill specialist is available to work on your drive problems—to your profit. Call him at your nearest G-E office. Meanwhile, send for Bulletins GEA-5010 and GEA-5648. ***General Electric Company, Schenectady 5, N. Y.***

GENERAL ELECTRIC

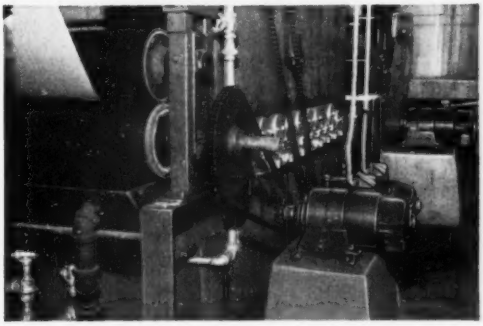
654-21

Because a low, reliable speed was needed nine G-E d-c gear-motors were chosen to drive the open soaper—part of the plant's continuous dyeing range—where surplus dyes are rinsed off the material. Each of these gear-motors—rated 5 hp, 230 volts, 100 rpm—combines a 1750 rpm motor with a built-in reduction gear into one self-contained unit that is highly efficient, compactly designed to save space, and sturdily built for long life.





After pigment is applied, cloth passes through drying flue to this 3-roll chemical padder, then through the ager to the open soaper, and finally to the dry cans. Driving the padder is another G-E d-c gear-motor, this one rated 10 hp, 230 rpm.

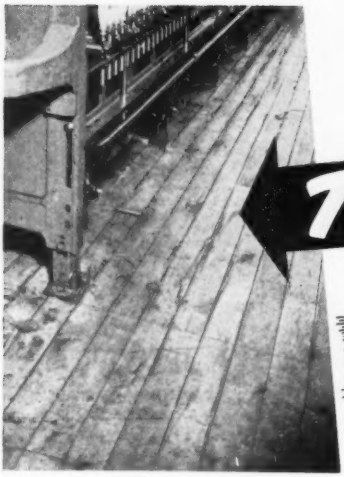


From the 3-roll padder, material passes through this ager, where dyes are set in the material. One of these two G-E 3-hp d-c gear-motors drives the ager, the other drives the nip rolls which squeeze material emerging from the ager.

Shown here discussing the range control panel—which provides armature and field control of the d-c generator fed by the G-E steam turbine—are Byron J. Fish (right) plant engineer, and E. C. Phillips, G-E textile-mill specialist.

RANGE DRIVES
for Textile Mills

Here's a way to increase your workers' efficiency! Give them more motor "know-how" with General Electric's new Motor Selection and Application Course. It's one of G.E.'s "More Power to America" visual programs, and shows how motors work, types now in use, and how to select and apply them for specific jobs. Bulletin GEA-4938-16 describes the course in full. Write for it—now!



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Are your floors Cracking and Crazing?
Is High Humidity making floors sticky?

Give your floors the Twin-T treatment and watch floor maintenance costs come down. There's a Twin-T Product to correct almost every floor condition . . . products to help maintain mill and factory floors in tip-top shape, even under the heaviest traffic. Floor deterioration is costly and dangerous . . . stop it now . . . order the Twin-T Floor Maintenance Products you need today!

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TERRAZZO FINISH
TERRAZZO SEALER
ASPHALT AND MASTIC TILE SEALER AND FINISH
CONCRETE HARDENER AND NEUTRALIZER
HIGH LUSTRE FLOOR COAT
SANITREET DUST CONTROL AND MAINTAINER
LIQUID BUFFING WAX

For Concrete Areas that Need Sealing...

Here's your product — TWIN-T CONCRETE HARDENER AND NEUTRALIZER — an amazing compound that penetrates and "case hardens" any concrete surface when mixed with water and brushed on. Seals concrete and eliminates surface "dusting."

BRING YOUR FLOOR PROBLEMS TO TWIN-T. Let us demonstrate TWIN-T Products in your plant without obligation. Call us today.

FREE DEMONSTRATION IN YOUR PLANT

Twin-T Products are Manufactured and Distributed by

TWIN-T LABORATORIES

309 RIVER STREET, GREENVILLE, S. C.

Color Indicates Hosiery Sizes

EDITOR TEXTILE INDUSTRIES:

In many hosiery mills errors are often made because there is no established procedure for some of the operations. Segregating the hosiery into lots according to size and style is usually a problem.

A large number of mills use a white ticket tied to the bundles to show the style and size of the hosiery. Anyone who tries to find a given size must search through every bundle to find the desired size because all of the tickets appear alike and must be examined carefully to determine what size is indicated.

A color code may be employed on the tickets to indicate sizes as follows: purple, size 8; red, 8½; yellow, 9; blue, 9½; green, 10; white, 10½; pink, 11. The operator who sorts the work should be able to check with greater speed and collect the desired sizes quickly.

CONTRIBUTOR No. 8436

Tension on Rayon in Knitting

EDITOR TEXTILE INDUSTRIES:

Frequently trouble is encountered when knitting cone-wound rayon yarn. When the knitting machine is started after a stationary period the rayon yarn slips down the side of the cone and becomes snagged underneath the cone or the bobbin stand. The snagged yarn sometimes causes press-offs.

A method often used to prevent snagged yarn is to cut out a wood or cardboard disc, drill a hole for the cone holder, and place cotton sliver or a cotton pad on top of the disc. The cone is placed upon the pad, and the pressure of the cotton in some instances creates an uneven drag on the yarn. However, uneven tension on the yarn causes alternate tight and loose stitches in the fabric.

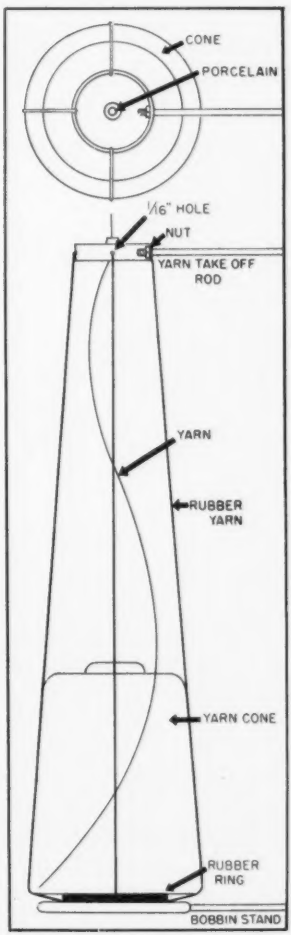
The use of pineapple cones improves the condition to some extent, but if a cotton pad is not used the yarn may fall underneath the base of the package and must be pulled upward in an acute angle. The cotton pads sometimes fall off the bobbin stands of machines which have rotating heads.

Filament rayon yarns may be knitted without any of the forementioned difficulties by applying a few simple modifications to the yarn holder (see accompanying sketches). Parts needed for the change include a tin lid, a rubber ring (washer or gasket), and some fine rubber thread. The tin lid should be approximately the diameter of the base of the cone, and the rubber ring should be the same size or slightly smaller than the base of the cone.

The tin lid should be drilled in the center with a ¼-inch drill. Three 1/16-inch holes should be drilled at 90-degree intervals through the lip on the outer edge of the lid. Maintaining the 90-degree interval, a fourth hole should be drilled with a ¼-inch bit. The threaded end of the yarn take-off rod should be screwed through the ¼-inch hole and suitable nuts applied to hold the lid in place on the rod.

A porcelain eye may be pressed into the center of the lid, and three pieces of rubber yarn should be tied to the lid by utilizing the small holes. A fourth piece of rubber may be fixed to the yarn take-off rod. The free ends of the rubber yarns should be tied to four equally spaced places on the rubber ring. The rubber should not be overstretched when the ring rests on the bobbin stand. A full cone can be placed quickly into position, and the attachments control the yarn satisfactorily throughout the run.

CONTRIBUTOR No. 8418



4 LEUCOPHORS

Optical Bleaches for Whiter Whites... Brighter Brights

LEUCOPHOR B
(BLUISH CAST)
for Cotton and Rayon

Improves white effects on checked or striped fabrics containing colored and white effects

Brightens white grounds in prints

LEUCOPHOR R
(REDDISH CAST)
for Cotton and Rayon

Excellent in anti-crease liquors and other acid finishing processes

LEUCOPHOR WS
for Wool, Nylon, Acetate, Silk
ORLON, DYNEL

It's easy to apply because it draws onto the fiber at low temperatures

LEUCOPHOR DC

Soluble in organic solvents: trichlorethylene, carbon tetrachloride, tetrachlorethylene, benzene, chlorobenzene, toluene, naptha, acetone and mixtures of these solvents

Send for your copy of all these new Sandoz' booklets:

√ Leucophor B √ Leucophor WS
√ Leucophor R √ Leucophor DC

SANDOZ CHEMICAL WORKS, INC., 61 Van Dam Street, New York 13, N. Y. Sales offices: Boston, Providence, Fairlawn, N. J., Philadelphia, Charlotte, Chicago, Los Angeles, Montreal, Toronto.

SANDOZ *thinks ahead with textiles*

SANDOZ

Dyehouse Shoe

(*Continued from page 85*)

to the heavy leather tops. Double stitching and rivets at the points of strain reinforce the uppers. A pearl gray suede tongue keeps out dust, dirt, and liquids.

According to the manufacturer, the wooden soles wear longer than leather, are less costly, and can't be damaged by water, chemicals or acids; the shoe prevents many foot diseases, staining, and poisoning.

Accidents due to slippery floors are reduced, it is claimed. For departments where grease and oil have made the floors extremely slippery, a metal rail can be attached to the sole and heel for a positive floor grip. This rail is optional.

The shoes are sold direct to the textile manufacturers; available in sizes 5 to 12. Larger sizes available on special order.

Stahmer Shoe Co., Davenport, Iowa.

For additional data, request item C-102, using business reply card on page 244.

NEW Equipment AND MATERIALS

Other items are described on pages 83 and 85

Reed Cleaning and Polishing with Warp Drawn in

Reed cleaning and polishing with the warp drawn in is now available on a single machine, the German-built, fully automatic Spaleck Model JD-1, which is being distributed in the U. S. A. by Kurt Orban Company, Inc.

Simple to set up and operate, this compact machine uses two circular brushes that move in opposite directions, the manufacturer reports, brushing the reeds through to their full elastic height and substantially cutting down reed reconditioning time.

Position of one brush is adjustable to conform to the height of the reed. Horsehair or metal wire brushes can be used.

Once the machine is set, no manual labor is required, it is claimed. The reed moves automatically under the cleaning and polishing tools, without further attention—handles both pitch-band and metal-bound reeds up to a height of 7 inches.

The grinding mechanism uses either grinding or pumice stones. Dust resulting from both grinding and brushing operations is drawn by a fan into a dust collector.

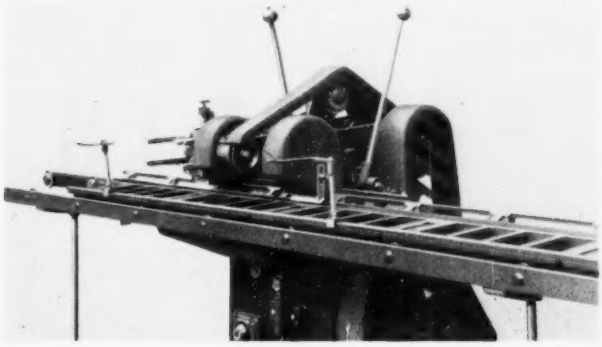
Also available is a semi-automatic machine, the Spaleck "Perfect" model, which performs reed cleaning and polishing operations semi-automatically. Here, the reed is pushed manually through the machine, and change-over from brushing to grinding is accomplished by a hand lever. A built-in exhaust fan keeps air free of dust from grinding and brushing. All lengths of reeds—both pitch-band and tin-bound—up to 7.2" can be reconditioned in this machine.

Delivery on both the automatic and semi-automatic models is approximately 6 months. Replacement parts will be available at the Kurt Orban Service Center, 4220 Prospect Avenue, Cleveland 3, Ohio.

Kurt Orban Co., Inc., 205 East 42nd St., New York 17, N. Y.

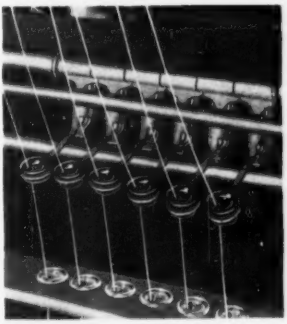
For additional data, request item C-117, using business reply card on page 244.

Spaleck automatic reed cleaning and polishing machine (Orban).



Stop Motion for High Speed Warper Creels Features Mercury Switches

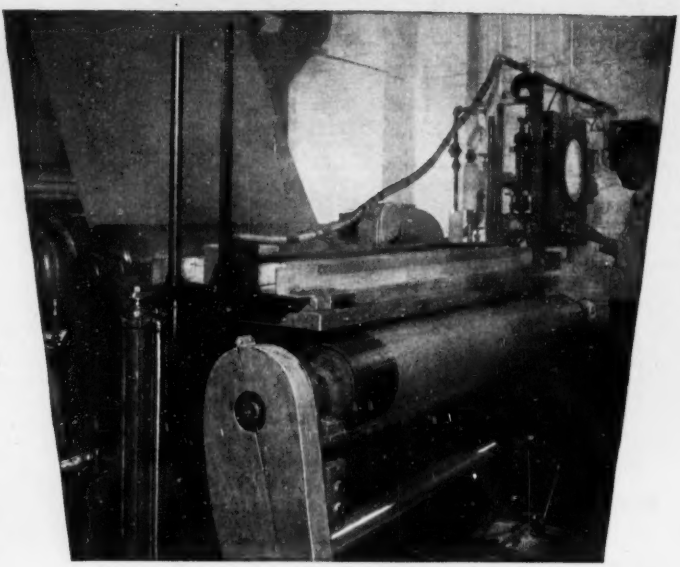
A positive acting electric stop motion for high speed warper creels utilizes mercury switches which, according to the manufacturer, eliminate troubles ordinarily encountered when oil or lint accumulates on contact bars of conventional stop motions.



EACH DROP WIRE of the McBride positive acting electric stop motion for magazine creels has a mercury switch attached.

Each drop wire of the recently developed stop motion has attached to it an hermetically sealed mercury tube containing two contacts. Since the tube is airtight, it is impossible for lint, dust, oil, grease, or other

The Butterworth 2-Roll Embossing Machine for vinyl-coated fabrics at Landers Corporation, Toledo, Ohio. Top engraved roll can be water cooled instead of steam heated. In this case the bottom roll is rubber covered permitting a change of the top roll for different designs without removing the bottom roll.



Heat + Pressure + Control

for successful embossing

of vinyl-coated fabrics

A manufacturer of vinyl-coated fabrics required a precise, dependable embossing machine that could operate in connection with an electrically heated plate for conditioning the vinyl.

SOLUTION: a 2-Roll Butterworth Embossing Machine — with air cylinders for applying pressure, recording instruments to assure uniformity of embossing. The machine produces exactly the desired effect with no variation from lot to lot.

Starting with a friction let off at entering end, fabric passes around double jacketed steel cylinder, under electrically heated plate, through the embossing rolls, over cooling cylinders to double slip disc winder.

If embossing is part of your finishing process — on vinyl coatings or resin-impregnated fabrics — it will pay you to see the Butterworth Embossing Machine in operation. Write or call us today.

H. W. BUTTERWORTH & SONS CO.
Bethayres, Pa. : : 187 Westminster St., Providence, R. I. : : 1211 Johnston Building, Charlotte, N. C.

BUTTERWORTH

On the job!

Our volunteer speakers are saving thousands of lives *today* . . . in factories and business offices . . . at neighborhood and civic centers . . . at social, fraternal and service group meetings all over this land . . . by showing people what they can do to protect themselves and their families against death from cancer.

To find out what you yourself can do about cancer, or if you want us to arrange a special educational program for your neighbors, fellow-workers or friends, just telephone the American Cancer Society office nearest you or address a letter to "Cancer," care of your local Post Office. One of our volunteer or staff workers will be on the job to help you.

American Cancer Society

NEW Equipment AND MATERIALS

contaminants to prevent positive action of the stop motion mechanism. Fire hazard is eliminated, the manufacturer reports, since there is no sparking with the mercury switches.

Unaffected by temperature, humidity, excessive lint, or oil in the stock, the new stop motion is not only available on new magazine creels produced by the manufacturer, but also in specially designed replacement units for use on any creel. Modification can be accomplished easily and quickly, it is claimed.

Edward J. McBride Co., 1398 Adams Ave., Philadelphia 24, Pa.

For additional data, request item C-106, using business reply card on page 244.

Improved Double Lift Double Cylinder Jacquard

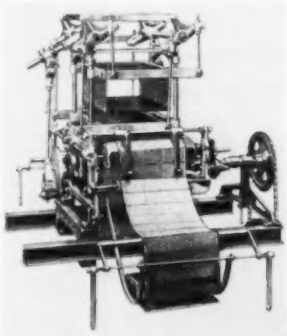
The double lift, double cylinder jacquard for cards in Vincenzi pitch, has been modified and includes a number of refinements.

The woodwork supporting the needles is assembled in the machine frame as a complete unit and can be adjusted as such, if necessary, to bring the needles in line with the special light alloy faceplates which are fixed on slides in the machine sides.

A lighter but stronger structure has been adopted for the griffe blocks which are fabricated from bright steel bar. These, of course, require less space and make a reduction in the total height of the machine.

To eliminate the possibility of the

Double lift Jacquard (Hardaker).



WINDING GLASS FIBERS? USE DILECTO

A leading glass fiber yarn manufacturer found this C-D-F laminated plastic tube the answer to his bobbin problem. Made from XX—80, C-D-F's special textile grade of Dilecto, the body had high mechanical strength, uniform balance and no whip. Mass-produced at one of C-D-F's large fabricating plants, this Dilecto tube was supplied with a ±.005" tolerance on the ID. Remember, Dilecto is non-snagging, noncorrosive, light in weight (½ of aluminum), resistant to heat, moisture, chemicals. Dimensionally stable. Available in sheets, rods, tubes . . . all easily machined.

CUTTING GEARS? USE CELORON

Build silence into your textile machinery with gears of golden Celoron. This light weight, resilient canvas-based plastic has been service-proven in millions of automotive timing gears made by C-D-F. Have your cutter supply you with Celoron gears. They last longer, stay quiet, and are a modern replacement for metal.

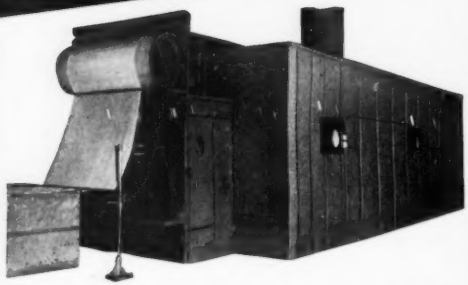
The F in C-D-F means Vulcanized Fibre, a rugged, economical material used in receptacles, roving cans, loom parts, molded or punched specialties. Visit C-D-F at Spartanburg, S. C., or write for Fibre catalog. See all the trucks, baskets, materials handling products made by C-D-F. *Move fast, save money* with C-D-F Fibre!

Have a special problem in plastics? Write Textile Research Section, C-D-F, Newark, Delaware. Catalogs, technical information, samples forwarded promptly.

Continental-Diamond Fibre Company
NEWARK 73, DELAWARE

Positive control of fabric quality is engineered into the

PROCTOR LOOP DRYER



Originally used for drying washed dye-house goods and materials like toweling, this dryer has been refined over the years giving it a much wider application. Many mills handling spun rayons and similar goods that require carefully done finishing are finding this a highly efficient machine for drying or curing.

Control of fabric quality is literally engineered into the Proctor loop dryer. One refinement in design is the perfection of the air looper which in connection with accurately matched steel chain insures the formation of positive loops and continuous operation when running all types of *light- or heavy-weight fabrics.* Special asbestos covered steel tubing provides a *rigid* and *accurate* revolving girt for the support of the fabric regardless of temperature conditions. Readily accessible lint screens contribute materially to over-all cleanliness inside the dryer. *Direct connected fans and motors* provide a trouble free system to distribute air evenly across the entire width of the conveyor, resulting in even, uniform drying.

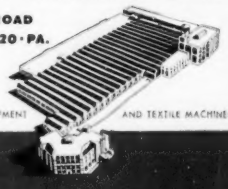
For more information on how this carefully engineered dryer can contribute to your mill's efficiency write today to:

AN INVITATION TO PATENT HOLDERS

Have you patented equipment which you have developed for your own line of business that you would care to have developed, manufactured, or sold? If such equipment comes within the line of our manufacturing and selling experience, we would be pleased to have you contact us. We will discuss the matter with you without obligation. If there seems to be a mutual advantage we may be able to realize good returns on new developments.

PROCTOR & SCHWARTZ · INC ·

610 TABOR ROAD
PHILADELPHIA 20 · PA.



MANUFACTURERS OF INDUSTRIAL DRYING EQUIPMENT AND TEXTILE MACHINERY

NEW Equipment AND MATERIALS

cards being turned by hand when the cylinder is presented to the needles, a clutch of special design is provided. This clutch is also made so that no breakage will take place should the weaver not use care to see that it is in an engaged position; and the hand reverse chain from it down to the loom is arranged so that it is stationary when the loom is in motion. Machine cut bevel gears and a telescopic shaft are employed to drive from the clutch, which is on the main shaft, to the cylinder, giving a very smooth motion and reducing the drag on the cards.

The cylinder is adjustable in all directions and, to make certain that the peg wheel and star wheel are properly geared together, they are both attached to the same bracket at fixed centers, but should any discrepancy arise due to wear, these centers can also be regulated by means of an eccentric stud supporting the peg wheel.

On each moving part there is a small grease fitting for lubrication with a grease gun, to reduce to a minimum oil dripping onto the warp. The vertical slides are provided with an oil reservoir in the form of a felt washer housed in each bearing, and the two main bearings, where access is difficult, are fed by oil pipes from the top of the machine side. As a final safeguard against this oil drip, substantial trays are provided under the jacquard feet.

John T. Hardaker Ltd., Bradford, England.

For additional data, request item C-502, using business reply card on page 244.

Maintenance Paint for Metals Subjected to High Temperatures

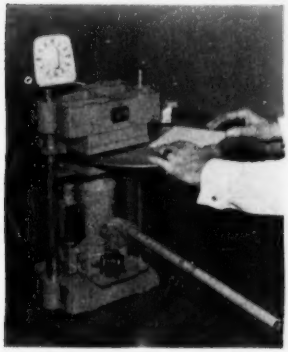
"Thermalite" is a new maintenance paint which the manufacturer claims protects metals subjected to temperatures in the range of 200 to 1000 F — for example, boilers, kilns, exhaust stacks, furnaces, and laboratory apparatus. It is said to be a high-heat aluminum paint, presenting a clean, smooth silver-bright finish, combining good appearance with high heat resistance. In addition, Thermalite offers excellent resistance to weather, chemical fumes, and salt spray, the manufacturer states. It does not dis-

color, blister, flake or burn off in temperatures up to 1000 F. May be applied indoors or outside, by brush or spray. Dries free from brush marks.

Tropical Paint & Oil Co., Cleveland, Ohio (C-503).

Small Laminating Press for Office Use

Permanent plastic protection of identification passes, photos, and other material up to 5" x 6" is now possible with a new laminating press that can be set up in any office and operated by regular office personnel. Complete lamination can be accomplished in 45 seconds, according to the manufacturer, with multiple production reducing time to 22 seconds or less per wallet-size unit. Lamination is available in clear plastic or colors for instant department or area identification.



Laminating press (Harco).

Harco Industries, Rochester, N. Y. (C-204).

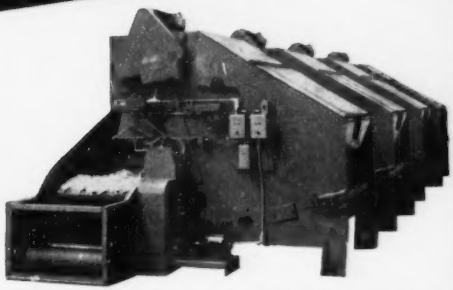
Reinforcement for Concrete Floor Surfaces

Designed for the reinforcement and protection of concrete floor surfaces that are constantly subjected to heavy industrial loads and severe punishment, an 11¾" square plate of .068" hot rolled steel known as Floor Plate is available in limited supply. It can be installed as a new floor surface or over old floors. No special tools are necessary for installation.

Each plate contains 100 small rectangular holes approximately ½" x ¾" and 100 barbed prongs ¾" long. These prongs anchor the plate firmly to the concrete. The four rounded edges of each plate form a flange that becomes imbedded in the concrete and adds rigidity to the plate,

Accurate weighings-automatically controlled with

PROCTOR WEIGHING FEEDS



The accurate weighings that are being produced automatically with late model Proctor feeds are opening up many new possibilities in the manufacture of blended fabrics. These feeds are being used in blending lines—accurately and automatically weighing components of the mix—and then farther along to feed cards with exact, predetermined amounts of stock. This results in unheard of uniformity in finished yarn . . . uniformity that is absolutely impossible when feeding is done manually or with older types of mechanical feeds.

Of course, the feeds used in blending lines differ in detail from those used for feeding cards—but are alike in the accuracy and automatic operation which is engineered into the design of each type. A further automatic feature which is part of the card feed design is the fact that it can be electrically tied in with overhead conveyors in such a way as to assure there being an ample supply of stock in the hopper at all times.

For more information on how Proctor carefully engineered feeds can contribute to your mill's efficiency and open up new manufacturing possibilities for you, write today to:

AN INVITATION TO PATENT HOLDERS

Have you patented equipment which you have developed for your own line of business that you would care to have developed, manufactured, or sold? If such equipment comes within the line of our manufacturing and selling experience, we would be pleased to have you contact us. We will discuss the matter with you without obligation. If there seems to be a mutual advantage we may be able to realize good returns on new developments.

PROCTOR & SCHWARTZ · INC ·

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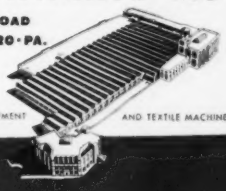

MANUFACTURERS OF INDUSTRIAL DRYING EQUIPMENT AND TEXTILE MACHINERY

For Sanforized fabrics don't settle for less:

Twitchell 7250 Oil gives you *all three advantages in one!*

SUPERIOR FIBER LUBRICATION . . . provides easy and uniform rearrangement of fibers during fabric pre-shrinking, assuring more uniform goods . . . eliminates sticking at the shoes.

FASTEST REWETTING . . . through high speed, uniform rewetting, you get increased production efficiency. For example, treating a 6 oz. untreated duck with a 3% solution of Twitchell 7250 reduces rewetting time from *5-10 minutes to only 15.2 seconds!* Rewetting ability is not affected by prolonged aging on fabrics or by finishing agents.

SOFT HAND . . . enables you to save on other finishing agents normally needed. In many cases Twitchell 7250 provides *all* the necessary softness.

In addition, this oil resists staining, yellowing, oxidation and rancidity . . . gives you the best rewetting buy on the market today. Save time, money . . . buy Twitchell 7250 today.

For a recommendation to fit your particular need, contact our Development and Service Department.

Other Twitchell Oils for other requirements. Select the one that best suits your conditions.

PRODUCT	FIBER LUBRICATION	REWETTING	SOFTNESS	STAINING
Twitchell 7250	Very Good	Fastest	Softest	None
Twitchell 7240	Excellent	Fast	Moderate	None
Twitchell 7231	Excellent	Medium	Slight	None

Emery *Twitchell Textile Oils*

EMERY INDUSTRIES, INC.
Carew Tower, Cincinnati 2, Ohio

BRANCH OFFICES:
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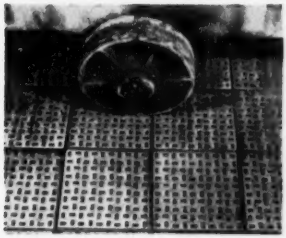
Export: 5035 RCA Bldg., New York 20, N. Y.
Warehouse stocks also in St. Louis, Buffalo, Baltimore, and Los Angeles

NEW Equipment AND MATERIALS



Floor plate protects concrete floor surfaces (Acme Steel).

the manufacturer claims. Provides resistance to slipping.

When necessary to remove sections of floor to repair plumbing, electrical lines, etc., any plate or combination of plates can be removed without disturbing rest of floor surface. Tests are said to reveal no wear after three years.

Acme Steel Co., 2840 Archer Ave., Chicago 8, Ill. (C-203).

"Over-Drive" Spinning Tape Features "Hinged" Center

Designed and perfected by Alfred K. Landau of Newtonville, Mass., the "Over-Drive" tape for driving spinning and twister spindles has recently been patented with rights assigned to Lambeth Rope Corp.

The distinguishing feature of the "Over-Drive" tape is the "hinged center" which is said to create much greater lateral and longitudinal flexibility. It is claimed that this flexibility results in several operational advantages:

1. It allows the tape to follow accurately the contour of the whorl.

2. Since the "hinged center" does not contact the crown of the whorl, the driving effort of the tape is transmitted with a low percentage of "slip" to the small diameters adjacent to the crown. There is, consequently, a definite increase in spindle speed, ranging from 1 to 3%, depending on the conditions prevailing before the installation of the "Over-Drive" tape.

3. The hinged center prevents the formation of an air cushion at any point in the driving area, since the entrapped air will pass freely through the hinge. Consequently, on the lead-

Photo courtesy the Springs Cotton Mills

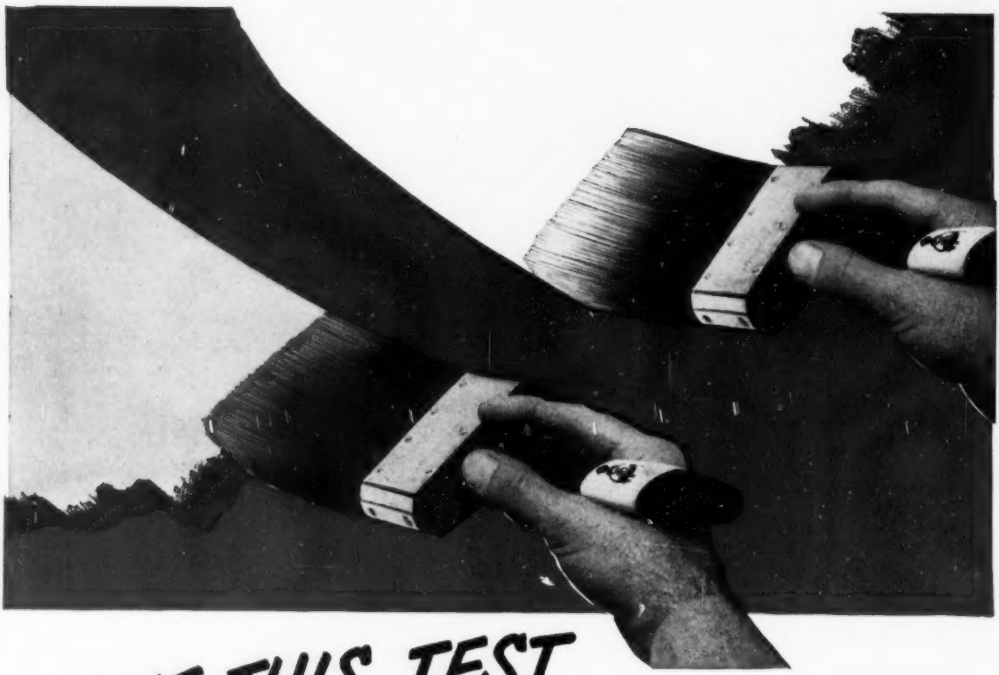
Right Hand Turn

Packages of textiles ride the Alvey Conveyors safely and arrive at destination with dispatch. Notable installations in important textile mills reveal how well Alvey Engineers understand the conveyor possibilities that will save time and expense in your mill. You, too, can have conveyors in your plant to accomplish important movement of materials. Set aside those costly manhandling operations. Savings quickly realized will soon pay for the Alvey equipment. Contact nearest branch office or communicate with the main office in St. Louis, Mo., today.

Everytime you manhandle a package — you add to the cost of your product—so write Alvey today. An Alvey engineer will be quick to respond. No obligation incurred.

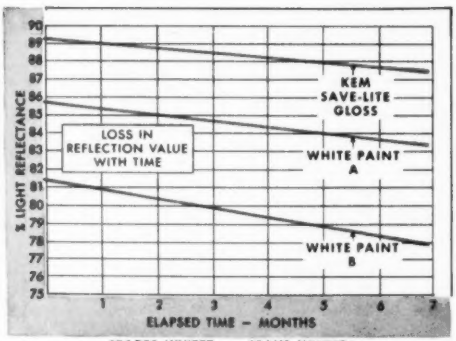
ALVEY *Engineered* PACKAGE CONVEYORS

Main Office and Plant: 9306 Olive St. Rd., St. Louis 24, Mo.
Branch Sales Offices in Principal Cities.



MAKE THIS TEST

before you paint your plant!



STARTS WHITER . . . STAYS WHITER!

Note how the whiteness, or reflective value, of Save-Lite *starts* higher than conventional finishes when first applied, and *continues* higher, as time goes on. This means *longer* intervals before repainting is required.

Compare KEM SAVE-LITE with ordinary whites

SEE why it stays cleaner—longer!

See for yourself the difference there can be in the whiteness of "white" finishes . . . even when they are first applied! Make a side-by-side comparison of KEM SAVE-LITE Mill White against conventional white finishes on any wall surface in your plant.

You can see the difference, from the start, in gleaming, brilliant whiteness...a difference because of the *controlled,* light-reflective properties that are designed into SAVE-LITE Mill White Finishes.

KEM SAVE-LITE *starts* whiter . . . KEM SAVE-LITE *stays* whiter, as the actual light reflectometer measurements in the comparative chart show. You'll find these same properties, too, enable it to hide better and cover farther! Call your Sherwin-Williams representative today for a demonstration, or write The Sherwin-Williams Co., Cleveland 1, O. (Division Offices, Charlotte, N. C. and Boston, Mass.)

SHERWIN-WILLIAMS

INDUSTRIAL MAINTENANCE FINISHES

SAVE-LITE MILL WHITE • COLOR HARMONY FINISHES

MILL VILLAGE PAINTS

off side, there is no vacuum to break, because the air will pass readily through the thin center.

As a result of these conditions, the ratio between cylinder and whorl is increased, resulting in the higher speed at the spindle. This increased driving efficiency of the tape, causing a change in ratio, makes it desirable to effect an adjustment in order to maintain the standard twists per inch. According to the report, it is necessary to take out from two to three teeth of twist which increases the speed of the front roll and brings about an increase in production, generally from 1½% to 2%.

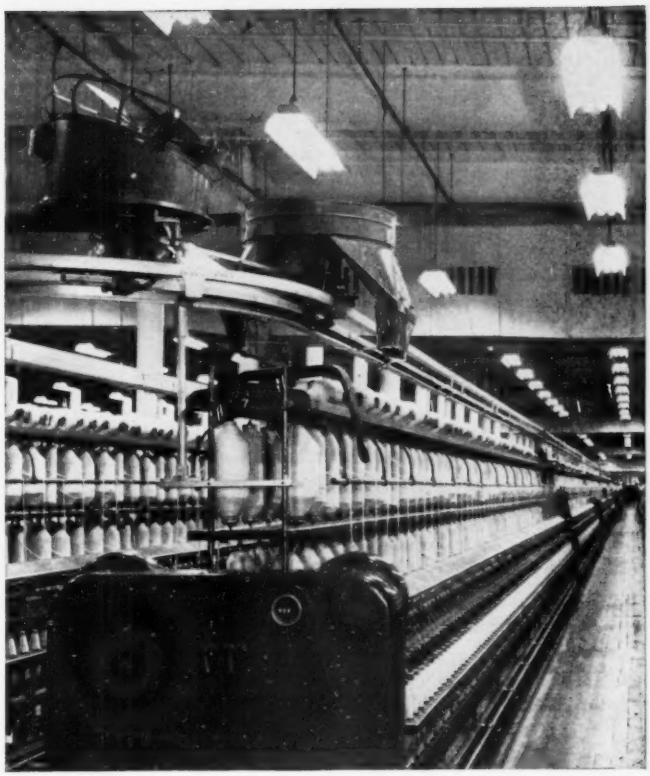
At the same time, due to the flexibility of the tape, the reduction in windage, and other factors, there is generally a saving in power ranging from 4% to 8%. Tests have shown,

Loom Handwheel Hub Eliminates Need for Wheel Puller

Designed to end handwheel troubles, the A&W handwheel hub shown here can be easily installed or removed since no keys or set screws are required. Welded construction. Malleable iron clamp. Clamps as well on worn shaft.

A&W Machine Co., Charlton City, Mass.

For additional data, request item C-113, using business reply card on page 244.



Continuous Cleaning

Ringrail to Rafters

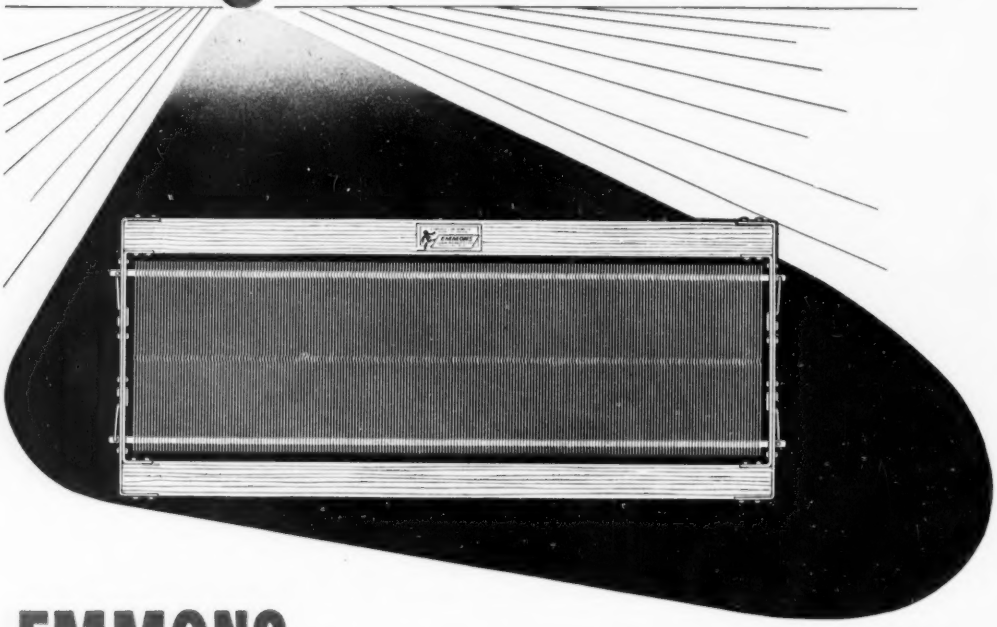
They surely must be doing a job, these Parks-Cramer Traveling Cleaners, for they are now standard equipment for more than 17,000,000 spinning, twisting, winding, spooling, and warping spindles.

And now its own twin, the Up-draft Cleaner, prevents lint accumulations topside. With Frame Cleaners, it runs tandem. In cardrooms or in other preparatory areas, it runs solo. And will it keep lights, conduits, ducts, and such, clean? You wouldn't know the place!

Parks-Cramer Company

Fitchburg, Mass. PARKS Certified Climate Charlotte, N. C.

85 Years of Constant Product Improvement



EMMONS *The* Name in Loom Harness Since 1867!

WEAVE ROOM EQUIPMENT

Heddles, heddle frames, reeds, slasher and striking combs, Run-Rite Plastic Sheaves (distributed by EMMONS in New England, Canada & Export; manufactured by National Plastics, Inc.), plus a complete line of other weave room equipment.

And an Emmons "E" Man is located nearby, ready to supply you with our products or to advise on installations—wherever your mill, whatever your need. Ask him to keep you posted on our constant improvements.

You'll find EMMONS "E" MEN at

NEW JERSEY
HENDRIK VAN BREDERODE
311 Godwin Ave., Midland Park
Phone Ridgewood 6-0760

LOS ANGELES, CAL.
E. G. PAULES
1762 West Vernon Ave.
Phone AX 3-6265

GREENSBORO, N. C.
R. F. COE
Box 221

CHICAGO, ILL.
ALBERT R. BREEN
80 E. Jackson Blvd.
Phone Harrison 7140

CHARLOTTE, N. C.
Branch Plant
George Field, Mgr.
P. O. Box 2036, Phone 3-7503

GREENVILLE, S. C.
RALPH GOSSETT & COMPANY
8 South Church St.
Phone 3-6233

CANADA
IAN M. HALDANE CO.
P. O. Box 54
London, Ontario

ATLANTA, GA.
ARTHUR HARRIS
P. O. Box 1992
Phone Main 2643

SAN ANTONIO, TEX.
W. H. GIBSON
1743 McKinley Ave.
Phone L2-9451

Main Office and Plant

EMMONS LOOM HARNESS CO., Lawrence, Mass.

the announcement states, that in spite of the thin center, the "Over-Drive" tape has a useful life which is equal in every respect to conventional tapes.

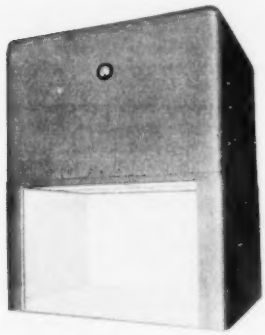
Lambeth Rope Corp., New Bedford, Mass.

For additional data, request item C-201, using business reply card on page 244.

New Skylights Provide High Intensity Light for Matching Dark Colors

Two color matching skylights now on the market feature a new high intensity north sky daylight which, according to the manufacturer, greatly increases color matching accuracy over the complete color range and especially in the dark colors and blacks.

These Super Macbeth Skylights are equipped with new, improved diffusing glass for greater light diffusion with higher efficiency. They are said to embody many refinements in



Model BX 848 Super Skylight for dyehouse service (Macbeth).

design and construction to increase matching accuracy and decrease installation and maintenance costs.

Super Skylight BX848 is recommended especially for dyehouse service, available with or without color matching booth. In addition to producing the high intensity north sky daylight, it provides horizon sunlight.

Super Skylight BX1014 is designed for shading room service. Both types of light are also provided by this unit.

Macbeth Daylighting Corp., Newburgh, N. Y. (C-108).

INVESTIGATE
Tower
TEXTILE EQUIPMENT

STAINLESS STEEL AGER

The cost conscious textile man, concerned with the purchase and operation of production equipment, will find it to his advantage to contact Tower engineers. Tower engineers will consult with you on the design and installation of the finest in textile equipment — to meet your most exacting operational requirements.

Write for free booklet on Tower Textile Equipment

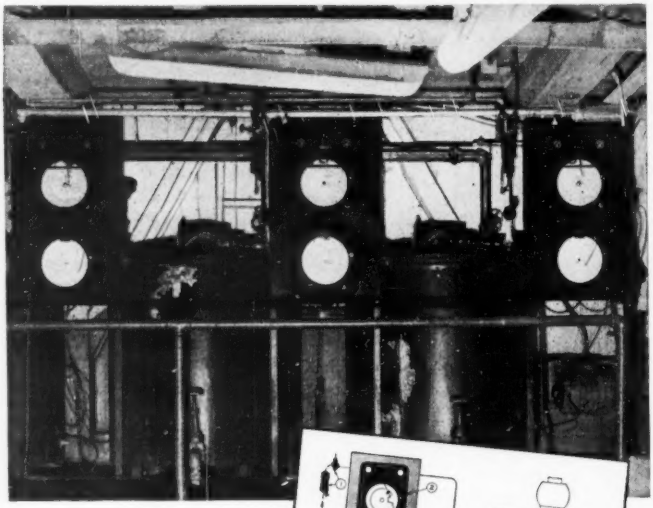
IRA L. GRIFFIN & SON
Charlotte 1, North Carolina
Southern Representative

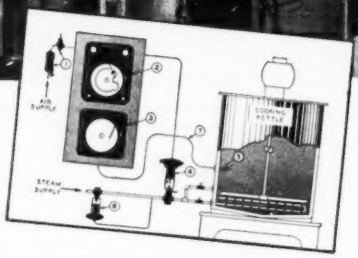
Tower Iron Works
Established 1835
50 BORDEN STREET, PROVIDENCE 3, RHODE ISLAND

MASONEILAN CONTROLS

"Eliminate the Guess"

From Size Cooking





The Masoneilan "Time Program" Control Instrument automatically dictates the predetermined time schedule, the correct temperature rise, and maximum cooking temperature. It assures uniformity of size in cook after cook . . . eliminates guesswork because the process is controlled automatically from beginning of the rise to finish of the cook. It will pay you to investigate Masoneilan Controls for your mill. Send for new catalog.

Check These Advantages!

- **Automatic Control Program** — Accurate schedule of rise, temperature and time of cook.
- **Reduces Production Costs** — Saves time and keeps steam consumption at a minimum.
- **Records for Reproduction** — Provides the operator with recording on eight, twelve or twenty-four hour temperature charts.

MASON-NEILAN REGULATOR CO.

1194 Adams Street, Boston 24, Mass.

Sales Offices or Distributors — *in the Following Cities*

New York • Syracuse • Chicago • St. Louis
Tulsa • Philadelphia • Houston • Pittsburgh • Atlanta • Cleveland
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Charlotte, N. C. • Los Angeles • Mason-Neilan Regulator Co., Ltd., Montreal and Toronto

NEW Equipment AND MATERIALS

Permanent Anti-Fungus, Anti-Mildew, and Anti-Deterioration Agent

Fabrics made of natural and synthetic fibers and treated with Kemysal are permanently protected against fugus, mildew, and deterioration, according to a report from The Flax and Fibre Institute of America where the chemical product was developed.

The product is not a coating, it is pointed out, but an indestructible penetrator of both fiber and fabric, being anti-toxic, anti-disease, and anti-bacterial in its properties.

The Flax and Fibre Institute of America, 6423 North Newgard Ave., Chicago, Ill.

For additional data, request item C-510, using business reply card on page 244.

Vehicle Aids Printing with Contrasting Brilliant Colors

A new textile printing vehicle permits color strengths believed to be unparalleled in textile printing history, the manufacturer states. Labeled G-E Glyptal alkyd resin 91033, the vehicle keeps pigment particles apart, it is claimed, restraining the color particles from clustering together. Each individual color particle on the surface of the cloth thus contributes to the color of the textile print.

Savings in pigments are said to be possible with the high color yields of the vehicle. When green and blue pigments are used with the new resin, only half the amount of pigment is required to get a color intensity equal to that obtained with conventional resins. The product also prevents pigment particles from running into the spaces between the fibers of the cloth and so contributes to the sharpness of the printing job. Prints made with the resin are reported to have exceptional wash and crocking resistance.

The new vehicle was developed for printing contrasting color designs on cloth where brilliant colors are desired: shirts, dresses, drapes, upholstery, and ties.

Emulsions made with it are stable during printing and on 48-hour storage, the manufacturer claims; they are easy flowing and have low penetration into cloth. Many varieties of

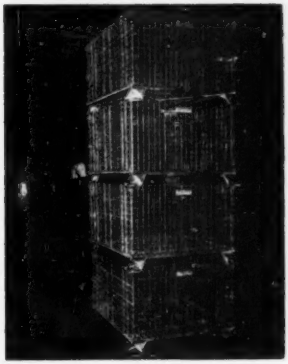
pigments, salts, additives, and solvents can be used with the product.

General Electric Co., Chemical Division, Pittsfield, Mass. (C-104).

New Cargotainer Design Permits Easy Entry by all Automatic Trucks

The base of the Cargotainer wire basket for materials handling has been redesigned to permit easy entry by all types of automatic trucks, according to an announcement by the manufacturer.

Absence of a center strip leg on this model enables even platform type trucks to handle the collapsible mesh



Stack of Cargotainers with redesigned bases (Pittsburgh Steel).

baskets. When tiered, the four legs of the base lock sides and ends of Cargotainers to form one solid visibly inventoried stack. In the collapsed form, five Cargotainers require space equal to only one erected container.

Pittsburgh Steel Products Co., Pittsburgh 30, Pa.

For additional data, request item C-116, using business reply card on page 244.

Vinyl Acetate Copolymers in Water Emulsion

Vinyl acetate copolymers are now available in water emulsion form, as well as in solvent solution. The manufacturer states that he is prepared to "tailor" these resin bases to the particular needs of individual users.

The water emulsions have a wide range of potential applications, including textile finishing.

The bases can be supplied in a wide range of molecular weights and in concentrations ranging from low

HOW TO GIVE YOUR FLOORS A FUTURE

(Above) Dark oil-soaked floor maintained by scrubbing. (Right) Similar area, same dirt conditions, but TENNANT dry-cleaned.

An example of results you can get with the

TENNANT *System* OF FLOOR MAINTENANCE

To be SURE of bright, easy-to-clean floors in your mill—both now and for *years* to come—no other maintenance method is more effective than the TENNANT SYSTEM.

It not only reconditions dark, spongy, water-softened floors . . . it restores original brilliance . . . hardens, seals and *protects* against dirt and traffic . . . cuts cleaning costs.

KEEPS FLOORS BRIGHT by fast mechanized dry cleaning. Eliminates scrubbing.

MAKES FLOORS EASY TO CLEAN. Dirt cannot readily adhere to smooth-sealed floors. Wipes off easily.

CUTS MAINTENANCE COSTS by saving manhours. Floors clean up like magic and stay clean much longer than when scrubbed. Floors stay dry, hard, lustrous; reduces slip hazards.

G. H. TENNANT CO.
2524 North Second Street
Minneapolis 11, Minn.

Write today!
Get typical case histories, photos, and NEW bulletin "How to Get Better Results In Textile Floor Maintenance."

TENNANT FLOOR MAINTENANCE *System*

Established 1870

OFFICES IN PRINCIPAL CITIES

EXTRA

Knitting News

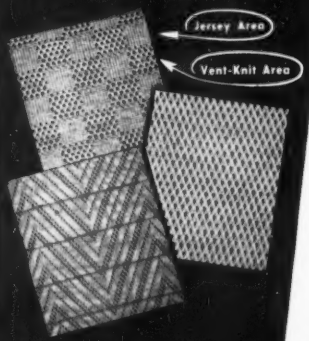
EXTRA

NEWEST! PATENTED! SUPREME LRP KNITS STRIKING, NEW AIR-COOLED FABRICS

...Supreme LRP *vent-knit*... cloth th... unique. It knits patterns ... strong, ... Model ...

LATEST SUPREME DEVELOPMENT —MODEL LRP—PRODUCES

A NEW FABRIC WITH SUPER SALES APPEAL



Supreme announces an amazing, new summer wear and underwear sales-knitter, the Model LRP.

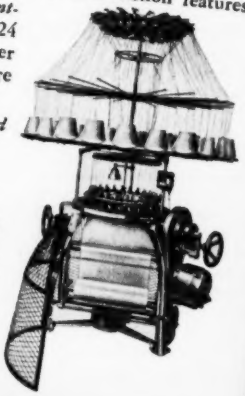
It knits patterns of air . . . produces wonderful, decoratively cool fabrics by placing open-stitched areas in a plain jersey background. These open, *vent-knitted* areas are large, sharply-defined patterns capable of wide variations in design.

The *vent-knit* pattern is a firmly constructed latticework of stitches with scores of openings or air vents to let heat out and coolness in. The breeze-cooled comfort and beautiful effects give the cloth super sales appeal.

Ventilated Yet Full-Bodied, Run Resistant and Shape Retaining—With a unique arrangement of cams, sinkers and pattern wheels the LRP *vent-knits* pattern-cooled cloth that is strong, full bodied, run resistant and lastingly elastic. Combination rayon and cotton or other mixed yarns can be used to produce many startling fabric variations.

Dollar-Reaping Production Rates – The new Supreme LRP pours out a wide variety of *vent-knit* cloth at rates up to 28 yards per hour. The machine has Supreme's mill-proven, trouble-free design and production-boosting construction features.

The standard Model LRP *Vent-Knit* Machine is 24" diameter—24 Feeds—18 needles per inch. Other diameters and cylinder cuts are available.



Write for free information and cloth samples.

Be sure To See The New LRP in Action At SUPREME BOOTH Nos. 63, 64 & 65 During The Knitting Show, Grand Central Palace, New York City, April 21 through 25.

SUPREME KNITTING MACHINE CO., INC.
103 Johnson Ave., Brooklyn 6, N. Y.
Southern Rep. and Showroom:
THE MALLUCK CO., 711 S. TRYON ST.
Charlotte, N. C.

SK 146

to unusually high solids content. They give adhesion to a variety of difficult surfaces.

The water emulsion form gives the user certain advantages of economy and ease of handling, the company points out. Since water is the vehicle, there is no problem of solvent odor, toxicity, or flammability, and the emulsions can be thinned with water on the spot to the required solids content.

National Adhesives Division, National Starch Products Inc., 270 Madison Avenue, New York 16, N. Y.

For additional data request item C-107, using business reply card on page 244.

Hy-Du-Lignum Picker Sticks to be Sold in U. S. A. by U S Bobbin & Shuttle

The U S Bobbin & Shuttle Company has been appointed sales agent in the United States for the Hy-du-lignum picker sticks manufactured by Hordern-Richmond Ltd., Haddenham, Bucks, England. This sales agency will cover picker sticks and loom accessories used on any and all looms manufactured or operating in the United States, excluding those manufactured by Crompton & Knowles, who already handle Hy-du-lignum accessories for their own looms.

Hy-du-lignum products are, according to the announcement, manufactured from specially selected, rotary-cut birch or beech veneers. These veneers are laminated and bonded with a resin adhesive under heat and pressure, avoiding any necessity for impregnating either the veneer sheets or the finished product. These laminated picker sticks are said to be practically as light and resilient as hickory and much lighter and more resilient than conventional type impregnated laminated sticks. It is claimed that the sticks have uniform density, resilience, total lack of material fatigue, and under equal operating conditions possess a life expectancy of a minimum of 5 or 6 times that of hickory, this figure being greatly exceeded under more arduous weaving conditions.

Due to their lighter weight and greater resilience, the picking motion of looms equipped with Hy-du-lig-

LAYING

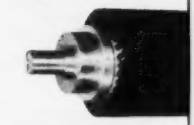
One of the most important factors in achieving top quality and peak performance in the manufacture of woolens and worsteds is the use of the right brush, correctly designed and constructed. The Jenkins' METLKOR brush for the woolen industry is just such a brush, developed out of three-quarters of a century of experience.

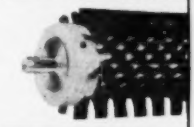
Specifically designed for processing these fabrics, the Jenkins' METLKOR brush will not sag, split, crack or get out of alignment. True-balanced and uniformly tufted to give uniform production, this brush—with any desired bristle on permanent metal core—will outlast other brushes many times while surpassing them in efficiency.

Leading textile machinery manufacturers for years have been using efficient Jenkins' METLKOR BRUSHES as an integral part of their equipment.

If you have any standard or special brush problems, write, wire or phone today, without obligation.

LIFEWOOD® *for wood core brushes and lags.*


RAISING


FLOCK

CARBONIZER

OTHER METLKOR BRUSHES FOR WOOLENS:

- BRUSHING MACHINE
- TEASELING
- TEASEL CLEANING
- CARDING
- WET CLOTH BRUSHING
- STEAMING
- PRESSING MACHINES
- SINGEING

1877 • DIAMOND JUBILEE • 1952

M. W. JENKINS' SONS, INC.

Three-Quarters' Century of Pioneering Brushes for Industry

Cedar Grove, Essex County, New Jersey

TELEPHONE Verona 6-8222

Stehedco and Southern

Although famous for Stehedco flat steel heddles—twin wire and brazed eye heddles can also be supplied. A few of the most popular styles are illustrated above.

STEHEDCO and SOUTHERN
"Weave the World's Needs"

NEW Equipment AND MATERIALS

num sticks require less power, resulting in a decided reduction of the wear and stress on the pickers and picking motion assembly.

No adjustment of the usual fixing methods is required when changing over to Hy-du-lignum picker sticks, the announcement states; also, the same tools are used in drilling for the picker as are used on hickory.

Less loom fixing is required, it is claimed, because due to the uniform characteristics of Hy-du-lignum a constant and steady picking motion is permitted.

U S Bobbin & Shuttle Co., Lawrence, Mass.

For additional data, request item C-112, using business reply card on page 244.

New 12" Functional Glass Blocks

Three 12-inch functional glass blocks were recently announced: (1) The PC Prism A 55, a light directing block for highest light transmittance in non-sun elevations; (2) the PC Soft-Lite Prism B 55 LX, a light- directing glass block for use in sun elevations offers greater brightness control and reduces heat gain; (3) the PC Soft-Lite Essex B 55 LX, a light-diffusing glass block for use in stairwells and other areas where well diffused light is required. It is also a companion for use below eye level in panels of light-directing glass blocks. Weigh less than 1/3 that of an 8" concrete building block, provide 12.5% more wall area, have better insulating value, take only ½ as much floor space, and require no surface finishing on the job, manufacturer claims.

Pittsburgh Corning Corp., 307 Fourth Ave., Pittsburgh 22, Pa. (C-206).

Controlled Tension Washer for Tubular Knit Goods

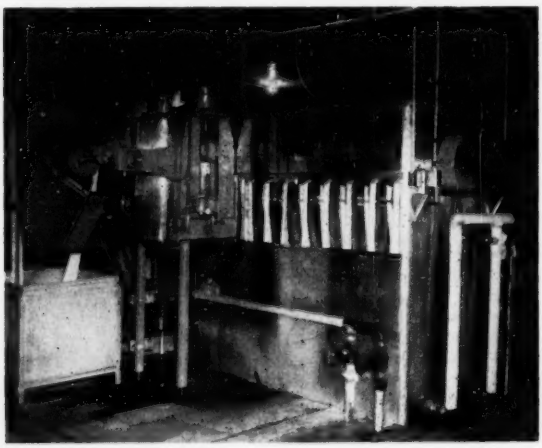
This installation of a "Flexreel" washer for washing after bleaching is, according to the machine manufacturer, the first successful application of a controlled tension washer for tubular knit goods.

The equipment, installed in one of the leading knit goods mills, is said to have displaced two slack-type units and to have increased the speed of washing to 200 yards per minute while effecting considerable savings in labor, water, steam, chemicals, etc.

Success of the machine in this application is attributed to the basic principle of the flexible reels.

James Hunter Machine Co., North Adams, Mass.

For additional data, request item C-202, using business reply card on page 244.



Stehedco and Southern

It's Only Natural...

*This pigeon selected Stehedco Heddles for its most important job: Weaving a secure nest for its young ones.
(Actual Photograph)

...to select Stehedco Heddles when your weaving job is important to you

Steel Heddle Mfg. Co., the largest manufacturers of Loom Harness Equipment possesses every known facility and resource and is prepared to furnish every type of heddle required for your weaving needs. There is a specific Stehedco Heddle for every kind of fibre material or synthetic: Silk, Rayon, Nylon, Orlon, Dacron, Cotton, Worsted, Wool, Straw, Cellophane, Paper, Wire, Fibreglass and Synthetics.

All are made with specially designed precision built equipment, operated by experienced craftsmen. These are the superior Stehedco features that assure you top quality weaving.

Consult our staff of Field Engineers maintained for the express purpose of assisting you with your mill problems.

1-M-6

STEEL HEDDLE MFG. CO.

2100 W. ALLEGHENY AVENUE PHILADELPHIA 32, PA.

Other Offices and Plants

Greenville, S. C. • Atlanta, Ga. • Greensboro, N. C. • Providence, R. I.

Paris Plant . . Greenville, S. C.

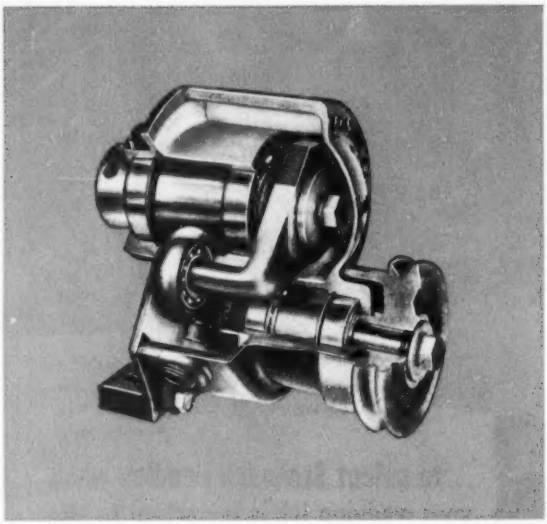
A Division of STEEL HEDDLE MFG. CO.

310 St. Hubert Street Granby, Quebec, Canada

STEHEDCO and SOUTHERN "Weave the World's Needs"

install this combination...

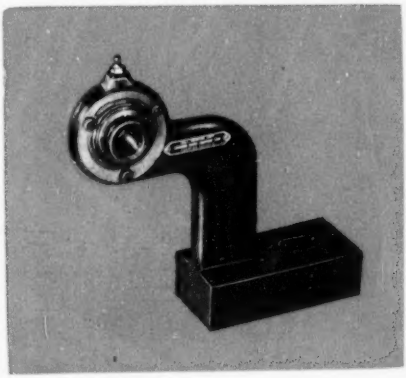
IT PAYS FOR ITSELF



Ball Bearing COMB BOX

Southern States ball bearing comb boxes require no attention. They are lubricated and sealed for life. Running smoothly and cool, they drive the comb with an even stroke without chatter or vibration. Hot, leaky, vibrating comb boxes are no longer a necessary evil.

These units are furnished complete with an adapter base to mount them on the make of card you specify. Each adapter base is double tapped to insure quick, easy mounting of the box on either right or left hand cards.



Ball Bearing OFF-END STAND

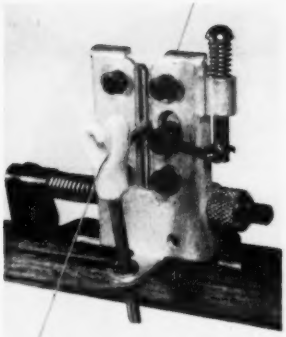
This is the optional companion piece of the Southern States ball bearing comb box. A completely sealed bearing unit, this stand—when used in combination with our ball bearing comb box—eliminates the possibility of oil damage at the front of the card. These units are available for all current makes of cards and may be mounted either right or left hand.

Southern States SS **Equipment Corp.**
HAMPTON GEORGIA

Representatives - Mechanical Division

William A. Knapp Atlanta, Georgia	Matthews Equipment Co. Providence, R. I.	John C. Walters Hampton, Georgia	C. H. Kennington Charlotte, N. C.	Roy Schrimshire Columbus, Georgia	Textile Parts & Machine Co. Gastonia, N. C.	F. C. Todd, Inc. Gastonia, N. C.

Largest Manufacturer of Cast-Tooth and Cut-Tooth Gears in the South



THREAD GUIDE and clearer for winders (Manchester Metal).

Combination Thread Guide and Clearer for Winders

An important feature claimed for a new type combination thread guide and clearer for application to all types of winding machines is the ease with which the operative can regulate the passage of the yarn from the supply package to the delivery package. By moving a small knurled nut on the clearer spindle, the correct positioning of the yarn during winding is obtained.

The blades of the clearer can be accurately set to any desired gap in a few seconds without the necessity for removing or altering the position of the clearer. To make change in settings for different types of yarn, two screws in the clearer body are loosened by means of a special key provided, a plunger is depressed by the finger, and a gap gauge of the correct thickness of the yarn which it is intended to process, is inserted between the blades. The spring loaded plunger is then released, and the blades close on the gauge. The screws are then tightened, and the gauge withdrawn. A set of gauges is supplied with the device.

If at any time the device is to be used for winding yarn which does not require clearing, then the blades can be locked in an open position, and it will serve as a thread guide only.

Excessive wear of clearer blades is claimed to have been eliminated, since the hardened steel blades of the clearer section are not only reversible but can be adjusted for height, so that all the wear is not on one small section of the blades.

The combination guide and clearer can be fitted to either rectangular wood or round metal guider rails. It is made of pressed steel, and is supplied with a rust-resistant finish.

Manchester Metal Works Ltd., 368 Bury New Rd., Salford 7, Lancashire, England (C-101).

Improved Fiber Microtome

The divided drum and indicator of the new Mico Fiber Microtome have been positioned so that readings can be taken by the operator from the front as he makes the sections, eliminating the necessity for moving the instrument or changing his position to read the micron scale.

Making the rapid preparation of very thin sections of fibers, yarns, threads, etc., for study by microscope, the instrument is especially useful in the process of identifying fibers contained in yarns made from

NEW Equipment AND MATERIALS

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The All-Purpose Oil Can Lubricant

Even in this day of great technological advancements, a good deal of our textile machinery is still hand lubricated by oil can. NON-FLUID OIL, the drip-less, waste-less lubricant, has proved itself for 55 years as practically a one-purpose lubricant for oil can application (excepting for spindle lubrication).

This versatility of NON-FLUID OIL is the reason that today it is being more widely used than ever in the Textile Industry despite the terrific sales campaigns currently being staged for ordinary oils. Years of actual experience have shown that NON-FLUID OIL provides cleaner and better lubrication at less cost.

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NON-FLUID OIL is not the name of a general class of lubricants, it is a specific product of our manufacture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly to use.

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NEB—Quality-controlled from forest to you

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ANOTHER Mount Hope CLOTH HANDLING DEVICE

Read our offer of the best possible guiding service, and our guarantee in Bulletin PGI. Send for your copy today.

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blends, the manufacturer states.

Drum is divided into 10-micron units, allowing the preparation of sections as thin as 10 microns. Feed screw is carefully fitted and lapped to insure precision and uniformity in sectioning. The sturdy design keeps the instrument rigid and fixed in position during the sectioning while the compactness allows ease of operation, handling, and storage.

Available in two models: Model 200 for fibrous or circular material has a .031 aperture; Model 201 for film, paper, and other flat materials has an aperture .125" long by .015" wide.

Mico Instrument Co., 80 Trowbridge St., Cambridge, Mass. (C-103).

New Books of Interest to Textile Personnel

Recently published by Emmott & Co., Limited, 31 King St. West, Manchester, England, was "Negative Dobby Shedding Motions" by W. Middlebrook of Brocklehurst-Whiston Amalgamated Ltd. In this tenth book of a series of "Textile Manufacturer" Monographs the main features of a number of dobbies are described, including: Blackburn, Keighley, Hattersley, Northrop, Ruti, Staubli, and Crompton & Knowles types.

The October 1951 edition of *"ASTM Standards on Textile Materials"* includes in their latest form 88 specifications, test methods, and tolerances developed by ASTM Committee D-13. Included in this compilation for the first time are the tentative methods of test for resistance to abrasion of textile fabrics, with numerous illustrations. Copies of the 612-page book, heavy paper cover, can be obtained from American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa.

K. T. Korn, management research scientist and chairman of the research committee on synthetic time systems of the American Institute of Industrial Engineers, Inc., has written a book which reviews the history and development of industrial engineering and its growth into a profession. Published by Edward A. Berk & Associates, Cleveland, Ohio, *Manhood of Industrial Engineering* shows an actual application of the principles in a case history wherein he illustrates his methodological approach to a specific, typical industrial problem, and points out the results which can be achieved in creating lasting harmony in labor-management relations for the benefit of all—industry, employee, management, consumer, investor, etc.

Boiler Feed Water Treatment, by F. J. Matthews, has just been published by Chemical Publishing Co., Inc., 212 Fifth Ave., New York 10, N. Y. According to the announcement, the results of recent research in this field, new developments in plant construction, revised views on problems such as caustic embrittlement, carbonate and phosphate conditioning, the mechanism of scale formation, priming and production of wet steam, are included; also, much new material has been added on silicate scale, hydrogen and demineralizing zeolites, colloidal conditioning, use of metaphosphate, the Budenheim process, electrical scale prevention, etc. (price, $4.50).

NEW Equipment AND MATERIALS

Metallizing Engineering Co., Inc.,

THE "JUNIOR CLEANER"

(Pat. Pend.)

Does a "Man-Size" Job!

For use between hopper and conveyor.

Delivers to regular cleaning line.

Completely opens and pre-cleans small amount of cotton delivered to each hopper in battery, so that machines in regular cleaning lines do *more cleaning* with *less staple breakage*.

Requires 43" between hopper and conveyor table.

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$950 each, f.o.b. Gastonia, N. C.

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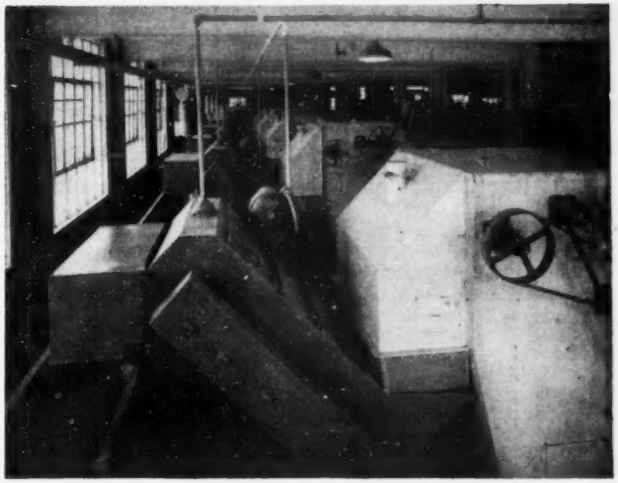


Shown above is a complete installation of "JUNIOR CLEANERS" in opening room of an Alabama mill.

Manufactured by

GASTONIA TEXTILE MACHINERY CO.

GASTONIA, NORTH CAROLINA

Exclusive New Quick-Opening **Quadritype Die Heads**

ON THE NEW

RIDGID

"500"

Pipe & Bolt Threading Machine

New "500" Quadritype Die Head can be instantly adjusted from 1" to 2" regardless of position of quick-opening lever —and without removing dies or die head from machine

★ Also improved Dualtype Die Heads, one for ¼" and ⅜", one for ½" and ¾", same instant size change *right in the machine.*

★ Also separate Monotype Die Heads available, ⅛" to 2", bolt die heads, ¼" to 2".

★ All tools in the "500" thread, cut, ream independently, and right up to chuck, swing out of way when not in use.

★ With a score of other sensational new features! See the new RIDGID "500" at your Supply House.

THE RIDGE TOOL COMPANY • ELYRIA, OHIO

★★★ RIDGID Work-Saver Pipe Tools ★★★

38-14 30th St., Long Island City, N. Y., recently published a new *Metallizing Handbook* providing comprehensive coverage of the technical as well as the practical aspects of the process. Various methods of surface preparation, and the application of metallized coatings for machine element work, for corrosion work, and for many special production jobs, are detailed in the 250-page text, the manufacturer reports. (Price for cloth-bound copy, $3.00.)

The entire field of the chemistry of synthetic dyes will be treated in two volumes by K. Venkataraman, director of the department of chemical technology, University of Bombay, India. Entitled *The Chemistry of Synthetic Dyes,* Volume 1 became available in January, 1952 (price, $14.50); it is expected that Volume II will be published in the fall of 1952 (publishers: Academic Press, Inc., 125 East 23rd St., New York 10, N. Y.). Not only is the chemistry of intermediates and dyes treated, but also the application of dyes, the relation between color and chemical constitution, the action of light on dyes, and the chemical constitution of dyes in relation to their affinity for textile fibers.

Quality Control Association Plans Spring Meeting

The Textile Quality Control Association will hold its spring meeting at A. French Textile School, Georgia Institute of Technology, Atlanta, Georgia, on April 3 and 4, 1952.

In connection with the meeting the Association will have exhibits of physical testing instruments and equipment. To date, over fifteen manufacturers of textile testing equipment have indicated their desire to exhibit, the Association reports. The exhibitors will have at their booths engineers to explain the operation of their equipment and to discuss practical problems.

The program will begin with registration on the evening of April 2 at the Atlanta Biltmore Hotel and will continue through 12:30 P.M. on April 4.

Included on the program will be a report of the Association task group on the effect of moisture on capacitance type evenness testers and discussions on processing long staple synthetics, the significance of quality control in finished

goods, the application of statistical control to textile processing, tar spots in finished goods, and the application of fiber fineness to quality control.

The Textile Quality Control Association was formed almost two years ago for the sole purpose of promoting the control of textile quality in mills. The membership includes over fifty quality control engineers, research men, line supervisors, and others interested in quality control.

Officers of the Association are: Clyde Moss, Firestone Textiles, Gastonia, N. C., chairman; F. H. Martin, The Springs Cotton Mills, Lancaster, S. C., vice-president; W. A. Thomason, Jr., Saco-Lowell Shops, Charlotte, N. C., secretary; and George Archer, Uster Corporation, Charlotte, N. C., treasurer.

All persons interested in quality control are invited to attend the meeting and non-members who desire further information about it may write the Secretary, 367 Ridgewood Ave., Charlotte, N. C.

Executive Views the News in Textiles

(*Continued from page* 81)

England, and, all in all, presents a wealth of statistical and factual information which is of great interest. If you have not read a copy of this report you should make every effort to do so.

Bermuda Cruise

Whenever possible, we like to complete this monthly effort with a bright and cheerful topic. What could be brighter than the contemplation of a cruise to Bermuda this fall? At any rate, that is the prospect in view for the members of the Carded Yarn Association. Announcement was recently made by Owen F. Fitzsimons, executive vice-president, that the Association's 1952 convention will be held on a cruise ship enroute to Bermuda.

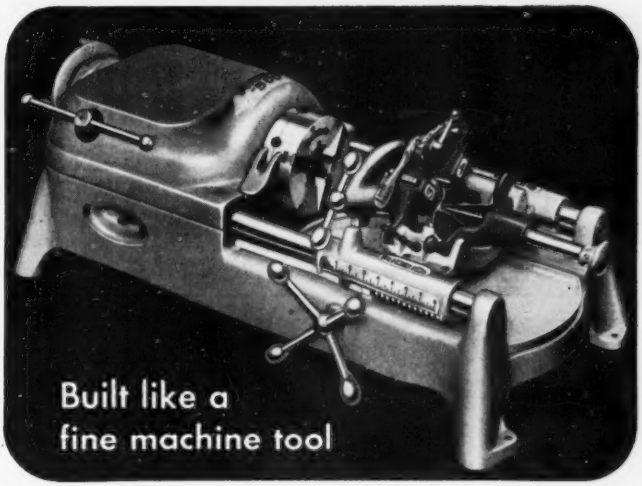
It may be that when the time for the sailing comes the Carded Yarn Association will have more members than it ever dreamed possible. In fact, this writer is sending now for an application blank.

Announcing THE GREAT NEW

"500"

RIDGID

PIPE & BOLT THREADING MACHINE



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- New RIDGID quick-opening quadritype, dualtype and monotype die heads save time and work.
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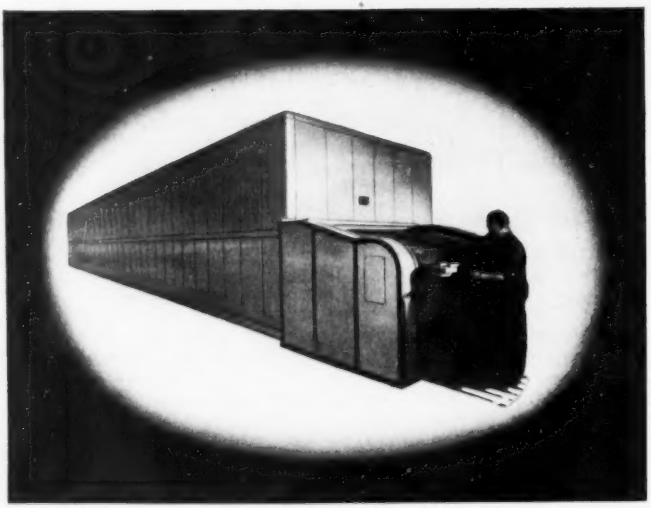

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In this modern, three-zone machine, the time required for the drying—cooling—and conditioning of yarn in the skein is greatly reduced, with resultant savings in labor and steam costs, and with increased uniformity in the processed product. Ideal processing conditions prevail at all times, regardless of outside temperature and humidity. Recent installations in leading Mills and Dye Houses.

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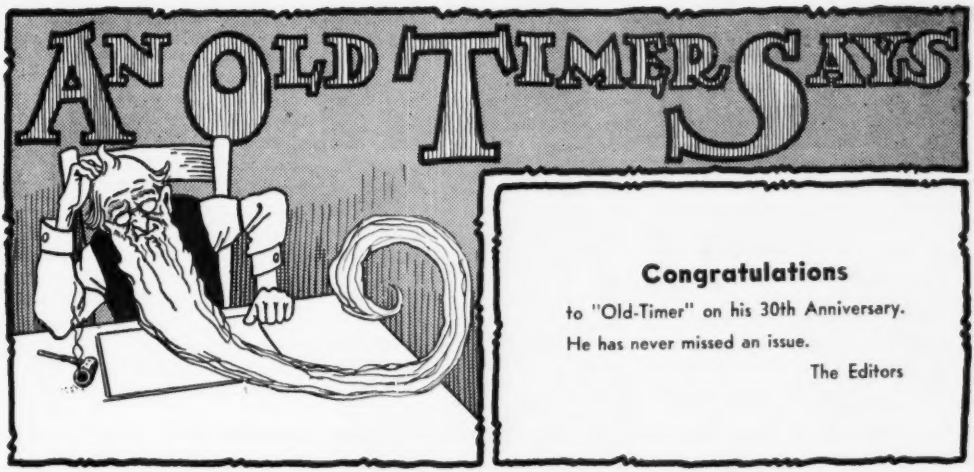

Congratulations

to "Old-Timer" on his 30th Anniversary.
He has never missed an issue.

The Editors

A Lesson in Efficiency

LONG AGO—yes, more than forty years ago, we experienced what we believe was an almost perfect example of cooperation with textile operatives.

This particular instance of cooperation among operatives paid off. In fact, paid off so well it brought promotion; therefore OLD-TIMER believes textile operating executives of today should devote more of their efforts to encouraging cooperation among their operatives.

Yes, we know conditions of operating textile machinery have changed radically in recent years, yet we still contend that there is a wide open field for much improvement, if the textile operating executives would give the subject more thought and study.

What brought this thought to mind was a recent trip through quite a large textile plant where we noticed five flags up for looms out of fix on one section in the weave room while the loom fixer for the adjoining section was standing idly at his work bench. We also saw several looms standing for broken warp ends on a set of looms and as we stopped, apparently to look at something else, we saw the weaver returning to that set of looms eating a piece of candy. (She had evidently been somewhere to get the candy and had been gone long enough for several of her looms to be standing.)

One of OLD-TIMER'S first experiences as a loom fixer was on a section of Stafford hand threading shuttle looms. Now you know it was a long time ago. We suppose there are many overseers and superintendents today who have never seen a hand threading shuttle loom. However, the experience we are about to relate is typical of what we mean when we use the word "cooperation" with reference to textile operatives. Those readers of this page who read the articles on "Pilgrim's Progress" (and if you did not read them it will pay you to look up your copies of "Cotton" and study those articles) will get practical ideas to apply to their jobs today. "Pilgrim's Progress" is one of the most practical and outstanding examples of imagination ever conceived by a human brain, and those who have read it will appreciate the fact that human nature is just about the same today as it was in your great, great grandfather's time.

Local conditions and the progress of the times can and do change some phases of human nature, but the basic principles never change. Those overseers and superintendents who wake up to this fact can profit by studying human nature in everything which human beings are concerned with —operating a textile plant, running a store, a barber shop, running for political office, being a salesman, physician, or what have you.

Just a simple illustration to show you what we are trying to say: to compliment a deserving weaver for his production record will still bring forth more effort on that weaver's part today just like it did forty years ago. To let a section man know that you appreciate the fact that he and his operatives cooperate in their work . . . . Oh, heck, you could well say OLD-TIMER is talking juvenile stuff. And so it would seem; but he still claims that the great majority of overseers and superintendents are

missing the surest and most dependable bet in their management by not giving more thought to this juvenile thought, if you wish to call it that.

Juvenile, my eye! It is the one most important item in management today. Back in our time the selection of an overseer or superintendent depended largely upon the prospect who knew most about the operation of machinery. In fact, when textile plants began to spring up in the South most superintendents were selected from the carding department. Mill designers, who had great influence in naming superintendents, considered the carding department the most important one in the plant. We could name numerous instances to substantiate this fact. While on the other hand, we never heard of a cloth room overseer being made superintendent until about 1910; then we only knew of two in quite a large acquaintance among overseers and superintendents.

Now look at today. We can cite you numerous cases of very successful managers, superintendents, and even overseers who could not fix a loom, plumb a spindle, or set a card if their jobs or even if their lives depended upon it.

So, they are not looking for overseers, or superintendents, or managers with those qualifications alone today. They want men who can *work people*. They want men of good sound judgment in the management of operatives. Men who can obtain cooperation and loyalty from their department heads. Men who have that rare faculty of spreading their brains all the way down through their key men to the humblest operative.

And what is the paramount faculty which enables a man to do that? Well, OLD-TIMER places the knowledge of *Human Nature* at the top of the list.

Now to relate that experience of a section man which we believe is illustrative of what could be done today to incite in all operatives a better sense of cooperation.

On a section of Stafford hand threading shuttle looms we had four eight-loom weavers, six seven-loom weavers, and one six-loom weaver. In those days weavers did all the cleaning of their looms, oiling, taking off cloth, picking out bad places in the cloth, in fact all the duties which went into the operation of a loom to make a piece of cloth.

Because a loom would stop every time a filling bobbin ran out, you can realize that a weaver could not go to a rest room without having all of his looms stop and remain standing until he returned. Whenever OLD-TIMER would see this he would go to that set of looms and run that weaver's looms until he returned. Even if he was tying on a warp he would stop and go run that set of looms, because he could gain more production by keeping a set of looms running than by starting only one loom where he was tying on a warp.

It was a customary procedure for the weaver to clean and oil the loom when a warp ran out. To save time, OLD-TIMER would have the full warp at the loom before the warp ran out and would keep the weaver's looms running while the weaver would clean most of the parts of the loom *before* the warp ran out. These and several other small chores, of course, enabled the weavers to get more production, and they appreciated it.

Thus it did not take long for OLD-TIMER to win the confidence of his eleven weavers. Therefore when he began to talk cooperation to them, they were in a responsive mood and readily agreed to his suggestions about ways to help each other. For example, with three weavers in the same alley, say A, B, & C, when B went to the rest room A & C would keep his looms running until he returned. No weaver would leave his looms without leaving all spare shuttles with a full bobbin in them.

Our six-loom weaver was a middle aged lady who was an expert in "picking-out." For those readers who do not know what "picking-out" is, here is a brief description: Of course, you realize those Stafford looms had no warp stop motions. When a warp thread

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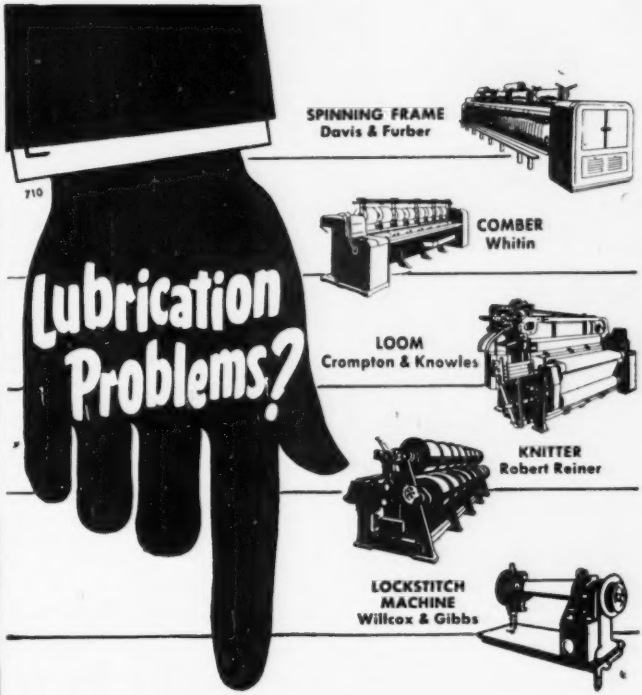
would break, if the weaver did not catch it, that broken thread would often make a bad place in the cloth. That bad place had to be picked out by the weaver. This consisted of tearing the cloth in about 8″ strips the length of the bad place. Then with a pick out comb (a steel toothed comb made especially for this purpose) the weaver would take out the filling from each of the 8″ strips and roll the warp back far enough for the next pick of filling to be inserted by the loom and produce perfect cloth with the bad place eliminated.

As the middle aged lady weaver could pick out a bad place in so much less time than any of the other weavers on the section, we persuaded her to do the picking-out for all the weavers on the section. Of course when (say) weaver B had a pick-out and she left her looms to do the job, all of the other weavers kept her looms runing while she was away.

We also had "break-outs" to contend with. Sometimes a shuttle would split or a loom would "slam" and break out the warp threads the length of the shuttle. Obviously this was too many warp ends to tie in; and even if tied in, all those knots in one place would make defective cloth. Therefore, the section man would ask the overseer or assistant overseer to put his initials on the cloth where the "break-out" occurred. This showed that permission had been granted for the weaver to run the warp beam ahead until the warp ends were long enough so those ends broken out by the shuttle could be drawn in without having to tie a piece of warp thread to them.

Here again we profited by having Tom Smith (not his correct name) who could draw in a break-out faster than any other of the weavers on this section, fix all the break-outs. Of course, as in the preceding illustration, the other weavers ran Tom's looms while he was fixing a break-out on one of the other weaver's looms.

These items and a whole bunch of others, which all of the weavers realized that each and all profited by, caused the overseer of the weave room to remark that OLD-



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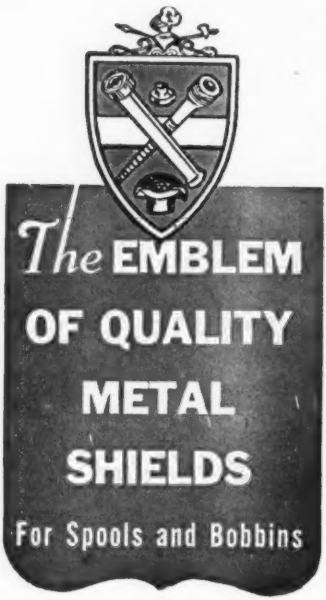

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Insist on Anderson when you order metal shields.

TEXTILE SHIELD CO., INC.

J. N. ANDERSON, Treasurer

LAWRENCE, MASS., U. S. A.

TIMER did not have but *one* set of looms on his section, because all the weavers ran all of the looms.

There was nothing difficult about obtaining this cooperation, fellows. OLD-TIMER first showed *his* efforts of cooperation, thereby winning the confidence of the operatives in that section. Then when those weavers were approached with suggestions of cooperation, they were in a receptive mood and fell in line. They were shown that they profited by helping the other fellow and as it is human nature for people to help each other, . . . Well, just stop to think of some favor you did for some one—did you not feel pleased over your act? Do you suppose a person could save another person from drowning without being glad that he did it? Heck, no! You can remember when you gave your boy, or some other boy, a 10c knife and it made you feel as good as if you had given someone a hundred dollars.

That is all according to the simple laws of human nature, gentlemen, and just why don't you overseers and superintendents take more advantage of these simple facts?—well, you answer that one.

Oh, yes. We know that now with one weaver on as many looms as the eleven weavers we talked about then, you can't hope to side weave like those weavers did on that section of old hand threading shuttle looms. But remember we only gave you that illustration as an example—and with the fundamental fact that human nature does not change. It is the same today as it was when those weavers were threading hand threading shuttles.

You don't have Stafford looms today, but you do have operatives with that same desire, deep down in their hearts, to help their fellow beings. It is up to you to find ways to apply the laws of human nature.

As for a comparison of the number of looms a weaver ran forty years ago and today, you must realize that it is the machines which have changed—not the operatives. The automatic looms coupled with a great improvement in manufacturing yarns for weaving, and modern knowledge by overseers and superintendents in relieving weavers of unskilled labor, such as taking off cloth, oiling, cleaning looms, filling batteries, etc., etc., are the items which have enabled the operative to attend 40 looms instead of 4 or 80 looms instead of 8.

See what we mean, gentlemen? The weaver who operated 8 looms 40 years ago, could with the same effort and skill operate 80 looms today. Operatives were just as skilled in weaving, spinning, winding, or in the operation of any machines 40 years ago as they are today. In fact, OLD-TIMER'S personal opinion is that operatives in those days were more skillful than they are today because they had so many more things to be skillful in than weavers of today.

As an example, an expert weaver in the old days had to be efficient in threading the shuttle, in pickout of the bad places in the cloth, in cleaning looms, in taking off cloth; he just simply had to work his brains more in those days to be an efficient weaver than he does today when his only job is to put in warp threads and then put in more warp threads.

Get it out of your head, Mr. Overseer and Mr. Superintendent, that just because operatives today have more machines to look after —they cannot cooperate; they can. This is one item of management which OLD-TIMER claims has been badly neglected.

Appraisals
. . . the WHY and HOW

(*Continued from page* 129)

other stockholders can be assured an equitable settlement.

It is not unusual for a large corporation to be forced into the sale of a subsidiary plant in order to satisfy tax requirements.

If patents are involved or if the corporation is to purchase the interest of the estate or sell a unit to settle an estate, an appraisal is required.

The problems involved in settling an estate are many and varied; but whatever the problem

or conditions, a study by an experienced organization is of value.

For Condemnation of Property

The growth of our cities, the shifting of industry, and the improvement in transportation are constantly creating new problems involving the condemnation of private property. The law of eminent domain which governs such cases stipulates that private property cannot be taken for public use without just compensation.

The only way to establish the value of property taken for public use is by an appraisal. Such an appraisal should take into consideration not only the fair market value of the property involved but also the damages likely to be sustained from condemnation of the property. An appraisal for this purpose should be made in accordance with the specific state's procedure.

An appraisal for condemnation purposes includes:

(1) The replacement value of the property.

(2) The amount of depreciation as of the condemnation date.

(3) The consequential damages resulting from the condemnation.

(4) The salvage value of the property.

Experienced appraisers accustomed to making reports of this character and testifying concerning them in court can be of great assistance in such matters.

For Patent Valuation

Patents are evidence of progress, and inventors are protected under our patent laws. Some patents have great value from the start, while others possess little value in the beginning but enhance rapidly as their life goes on.

The evaluation of patents as well as the licenses granted under patents are based on expected future profits; that is, profits which are expected after the basic date as of which the valuation is made.

It is necessary to determine the remaining life of a patent, after the basic date, or the average remaining life of a group of patents. For this remaining life the profit due to the patents is forecast, based on a logical consideration

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MOTOR—Designed for **CLARK** for the specific power requirements of industrial use. Fuses protect both motor and circuits against damage.

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STEERING AXLE—Pivoted—all four wheels **always** on the ground: better traction, better steering, utmost stability.

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DRIVE AXLE BY CLARK—Regular Hiway-Truck-Type Clark axle—the best that can be said of any axle.

★

AUTOMATIC ACCELERATION as employed on **CLARK** Electrics takes out the human error—**no jerking**—

★

DIRECTIONAL LEVER on **STEERING COLUMN**—greatly simplifies operation, increases maneuvering speed and fast getaway.

★

BRAKES—HYDRAULIC—Smooth, positive action for safe operation—ruggedly built for long-lived efficiency.

To meet the varying needs of users, CLARK electric fork-truck motors are designed to operate efficiently on any power supply from 30 to 48 volts. CLARK'S standard power supply is 36 volts. These trucks are designed with perfect balance among all components and incorporate a new method of motor winding which provides more efficiency than has ever been offered in an industrial truck motor . . . There have been many technical changes from year to year in CLARK machines, but there has never been any change in CLARK'S 30-year purpose to give you the best VALUE your money can buy—and there never will be.

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City _____ Zone ____ State _____
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CATCC Fastness Testing Forum and Exhibit Planned

A textile fastness testing forum and exhibit are being sponsored by the Canadian Association of Textile Colourists and Chemists, Quebec Section, in Montreal on April 25-26. Within two weeks of the initial announcement, over 20 suppliers of laboratory equipment especially for the textile industry signified their intention to exhibit, a report from the Association indicated.

Said to be the first of its kind in Canada, the exhibit and forum are being held in conjunction with the annual meeting of the association. The Sheraton Hall and Palm Court of the Mount Royal Hotel have been reserved for the two-day event.

Designed to further the work of the CATCC on standardizing test methods in the primary textile industry, the exhibit and forum will be open from noon on Friday, April 25th, to 4:00 p.m., Saturday, April 26th.

In addition to the CATCC members expected to attend will be at least an equal number of invited guests including textile industry executives, purchasing agents and sales personnel, as well as department store buyers and representatives of testing, laboratory, and consumer textile groups.

Speakers who will lead discussion at the Friday evening fastness forum will represent research, dyeing, finishing, sales, purchasing, testing and consumer textile groups.

after the basic date of what occurred prior to that time. In making this forecast, it is important to take into account all facts known at the date as of which the valuation is being made. An increasing volume of business and an increasing percentage of profits should be reflected in the forecast: likewise, a decrease should also be taken into account.

The value of a patent will be the present worth, as of the basic date, of the forecast earnings of the patent after that date. This valuation is then distributed ratably over the remaining life of the patent after the basic date, either for the purpose of depreciation or for amortization.

Patent and license valuations call for appraisers with a record of winning satisfactory decisions in federal tax and civil cases.

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HIGHEST QUALITY
SO2
The chemical with so many uses, Tennessee Liquid Sulphur Dioxide is now available in Cylinders, Ton Drums, Truck Tanks and Tank Cars. The Tennessee Corporation, producers of highest quality Sulphur Dioxide, is located in the textile producing area, assuring closer contact, faster and more efficient service.
Let us consult with you on the many uses of Sulphur Dioxide. Perhaps Sulphur Dioxide can solve some of your problems . . . 'phone, wire or write Tennessee Corporation, Grant Building, Atlanta, Georgia.
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Continuous Appraisals

Appraisal companies and engineering firms which render appraisal service to their clients furnish what is generally known as Continuous Appraisal Service. This service is based on an original appraisal and provides a report annually thereafter in condensed form. This annual report contains a schedule of the plant additions and disposals during the year. Allowances are included for the estimated changes in the replacement cost and in the accumulated depreciation. A new summary is provided showing current values at the end of each year. The detailed schedules in the original appraisal are not repeated in this annual report.

The advantage of having this continuous appraisal service is that the management is provided each year with up-to-date plant values. The cost of this continuous service is small because the annual report of plant changes is prepared by the mill management and does not require an annual inspection of the property by the appraiser.

NEWS IN BRIEF

(*Continued from page 79*)

been heat-set. Licensing arrangements may be made for use of the patented method.

Armored Jacket for Army. Developed by the Army Quartermaster Corps, a new type armored jacket is made of laminated nylon with waterproof outer cover and

U. S. Army Photograph

LAMINATED nylon jacket will stop .45 caliber bullet at point-blank range, first tests indicate.

will stop a .45 caliber pistol bullet at point-blank range. The jacket is still in the development stage and is not yet available for regular issue.

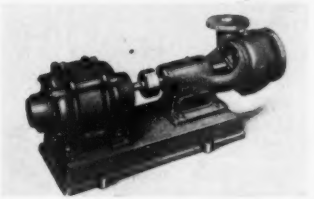
Perlon Sales Licensed in U. S. Seven synthetic fiber producers in western Germany will be permitted to ship yarn and staple fiber to this country on a royalty-free basis in accordance with a license agreement with E. I. du Pont de Nemours & Co., Inc. The agreement was made at the request of the Mutual Security Agency (formerly ECA).

Textile Pioneers in Electricity. The first industrial field to show interest in electric motors was the textile industry. The Columbia Mill, Columbia, S. C., was the first complete textile mill to be elec-

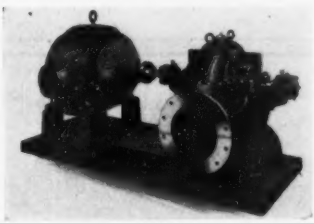
"Buffalo" Tips on Better Pumping

REGULAR PREVENTIVE MAINTENANCE

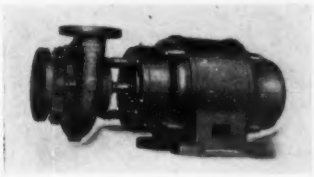
Keeps Your Pumps Performing!



FULL BALL BEARING "Buffalo" Pump for hard service. Its bearings are oversize, capable of handling speeds up to 5000 rpm.



"BUFFALO" TYPE "SL" Double Suction Pumps are among the most popular for humidifier and air washer service.



CLOSE-COUPLED for cramped quarters! The Type CCL Pump is one of many models to suit specific needs.

● Even the best constructed pumps require regular servicing for efficient performance and long life.

The best way to insure the success of a preventive maintenance program is to set up a regular schedule for servicing and inspection. A qualified engineer who knows pumps and lubricants should be the one to set up this schedule.

The schedule would call for at least four inspections of each pump annually, to check on bearings, shaft alignment, packing, impeller and lubrication. The inspector makes a report of any conditions which need correcting —conditions requiring servicing, to the operating group; conditions requiring repairs, to the maintenance group. (Often, these reports prevent minor conditions from developing into major troubles).

The schedule for lubrication, as well as any operating instructions, should be posted plainly on or near each pump.

This is another in a series of messages by Buffalo Pumps, Inc. in the interest of conserving materials and industrial equipment.

"Buffalo" PUMPS

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A BETTER CENTRIFUGAL PUMP FOR EVERY LIQUID

Free Speech O.K. If Union Has Last Word

Employers may not exercise their guaranteed right of free speech in their plants unless they give unions a chance to reply and to have the last word, the National Labor Relations Board ruled last week in Biltmore Manufacturing Company, 97 NLRB No. 128.

In this case the plant manager made a speech to employees during their paid lunch hour on the day of an NLRB election, but refused to let the union reply at the end of his speech. The union lost the election and asked the Board to set it aside because of such refusal. The Board set it aside, saying that employees have "the right to hear both sides of the story under circumstances which reasonably approximate equality."

Member Reynolds, dissenting, saw the ruling as "an unwarranted extension of the unfortunate doctrine of the Bonwit Teller case" which he had considered a revival of the discredited "captive audience" doctrine, and an infringement of the free speech rights guaranteed employers by the Taft-Hartley Act. (NAM News, Oct. 13, 1951.)

trified. The equipment order was given to the General Electric Company in 1893. Although it included requisitions for generators larger than the company had ever built before, the order was completed and the installation started. Next came Pelzer Mills, Pelzer, S. C. The day the Pelzer Mill electrification news broke, Pelzer common stock dropped $25.00 a share.

More Standards. American Standards Association has announced approval of 113 American Standards in 1951, bringing the total number of new and revised American Standards in effect to 1,181. Newly approved standards of special interest to the textile industry include 35 textile test methods developed by the American Society for Testing Materials and the AATCC.

Booklet Explains Wage Stabilization. The Wage Stabilization Board has issued for free distribution a booklet titled, "Wages In A National Emergency—The Why and How of Wage Stabilization."

Awards for Cotton Improvement in Ala. The Alabama Cotton Manufacturers Association has announced the State Award of $2,000 for the 1951 Cotton Improvement Contest. The prize went to Dallas County, Ala., for their Sardis One-Variety Cotton Community. There were four other award-winning cotton communities, each receiving $500.

French Productivity Low. Despite the recovery of the French wool industry from the deterioration and destruction of the war years, its productivity has not kept pace with developments in the American wool industry. Output per man hour in the United States is estimated to be between 50 and 100 per cent higher than in France.

Income Spent on Clothing. Income devoted to apparel expenditures averaged close to 10% of disposable income for the years 1929 through 1941. Since 1947 the figure has declined from 11.3% to 9.2% for 1950.

"Vapor Barrier" Employed in Uniforms. A single-layer, molded-plastic, winter combat army garment, employs the so-called "vapor barrier" principle to minimize the need for drying wet clothing in the field. The garment is designed to be worn without underclothing under certain field conditions and may reduce the number of items and the weight of winter combat uniforms.

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A REVOLVING STEAM CONNECTION
Pipe sizes ¼" through 3"

Mechanical Maintenance . . . Zero

You eliminate a lot of expenses when you install ROTARY UNIONS on your slashers, dry cans, calenders, embossers, and printing and coating machines.

You eliminate high installation costs. ROTARY UNIONS are self-contained units with built-in flexible hose connections. They need no complicated piping and brackets and can be installed in less than 15 minutes.

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Install ROTARY UNIONS in place of stuffing boxes, packing joints, or steam joints and cut your mechanical maintenance to zero. Write Department 3T for full information.

Deliveries from stock.

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Orr SLASHER Cloth

With Special Chemical Treatment

Something New and Better

● Slasher Cloth is an important maintenance item in a cotton mill. With the introduction of ORR Slasher Cloth with Special Chemical Treatment, many of the problems which have pestered the slasher room foreman have been eliminated.

The slasher room foreman, in order to satisfy the superintendent and the cost department, must have available a Slasher Cloth that:

1. Dresses the yarn properly.
2. Holds its width. No shrinkage.
3. Maintains level production performance.
4. Starts fast — lasts long.

ORR Special Treated Slasher Cloth maintains uniform dressing properties, resists bacteria and steam degradation, maintains dimensional stability. Discuss your Slasher Cloth problem with your ORR representative.

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Personal NOTES ABOUT MEN YOU KNOW

S. Scott Stewart, formerly with Florence Thread Co., is now vice-president and general manager of Rose Mills, Inc., Philadelphia, Pa.

Fred Nidiffer has been named superintendent of the American Thread Co.'s Bristol, Tenn., finishing plant.

After twenty years at Botany Mills, **Otto E. Kuhn,** treasurer, has retired. He will continue as a member of the board and of the executive committee.

Charles C. Wilson was recently appointed to the newly created position of assistant director of research at West Point (Ga.) Manufacturing Co. He was formerly head of the textile engineering department. **Arthur H. Dailey,** previously connected with the Chattahoochee Valley Railway of West Point, has been named assistant traffic manager of the firm.

Formerly with Standard Hosiery Mills, Inc., **Raymond Torgersen** has joined Whisnant Hosiery Mills as manager of the firm's New York office.

Robert M. Cushman, while continuing as vice-president in charge of operations of Textron Inc., has been named vice-president in charge of manufacturing operations of Textron Mississippi, Inc.

After 61 years in the woolen business, **Frank W. Bastow** has retired as vice-president and general manager of Cascade Woolen Mill, Oakland, Me. He will continue as a director of the firm.

William A. Parker, Beck & Gregg Hardware Co., Atlanta, is the new president and **Julian T. Hightower,** executive vice-president, Thomaston (Ga.) Mills, is vice-president of the Georgia Institute of Technology Alumni Foundation.

Troy B. Stone, personnel director of Fulton Bag & Cotton Mills, Atlanta, Ga., was recently named to the newly created post of public relations director of the firm.

Leslie A. Runton, formerly with the M. T. Stevens & Sons Co. division of J. P. Stevens & Co., has joined Alexander Smith, Inc., as director of engineering. He will supervise engineering operations in all of the firm's plants.

Bert I. Bertelsen has resigned as chief of the physical laboratory of Botany Mills, Inc., to become director of research for Drycor Felt Co., Staffordville, Conn.

Thomas D. Russell, president of Russell Manufacturing Co., Alexander City, Ala., was recently elected a vice-president of the Alabama State Chamber of Commerce.

George Westberg has become associated with Consolidated Textile Co., Inc., New York, N. Y.

Albert A. List, formerly a director of Aspinook Corp., is now president of William Whitman Co. **Elmer Bolt** has succeeded Walter H. Kaye, resigned, as purchasing agent with the Arlington division of the firm. Mr. Bolt was previously with the National Oil Refining Co.

Merle Littlefield, formerly boss dyer at the now liquidated Harris Emery Co., is with Dorr Woolen Co., Guild, N. H., in a similar capacity. New boss finisher at the plant is **Alfred Vanasse,** previously with the Portland (Ore.) Woolen Mills.

Ted Fournier has left Textron Inc.'s Manchester, N. H., plant to join Coaticook (Que.) Textiles Ltd. as superintendent.

E. M. Dintsch has joined Holyoke Worsted Co. as boss finisher. He was formerly with the Hockanum Mills of J. P. Stevens & Co.

Dewey T. Thompson was recently appointed research chemist and **Kenneth Wayne Hayes,** associate research chemist, at Callaway Mills Co., LaGrange, Ga. At the USEO Division of the firm, **J. T. Braswell,** formerly purchasing agent, is now assistant sales manager. **J. Morgan Jackson** has been named purchasing agent and manager of the personnel department. **J. Philip Cleaveland** was transferred from the Oakleaf plant to the Unity plant as superintendent. The Oakleaf plant building and equipment are now a part of the Unity Spinning Plant. **L. Collier Jor-**

dan, formerly in the HDV division, is now in the general office as secretary of the Provident Fund Committee.

Dan River Mills, Inc., has announced the appointments of **Frank Talbott, Jr.,** as vice-president and general counsel, and **Eaton B. Lloyd** as vice-president in charge of merchandising and sales. **Edward J. Mack** was elected controller, replacing J. Duncan Webb, resigned. **Everett T. Marten,** formerly with Carlisle Davidson, Everett T. Marten & Assoc., public relations firm, has been appointed director of public relations for the company, with headquarters at Danville, Va.

Ralph Gates has resigned from The Duplan Corp. to re-establish his own management consultant organization at 7 East 42nd Street, New York, N. Y. He will continue as a consultant to Duplan.

C. Ralph Ewing has resigned from Central Franklin Process Co., Chattanooga, Tenn., after twenty-five years with the firm.

Robert E. Oberholtzer was recently named vice-president in charge of engineering for James Lees & Sons Co. **Spencer L. Jones,** a member of the board of directors, was made secretary.

The National Association of Finishers of Textile Fabrics has announced the election as president of **Sidney M. Cone, Jr.,** secretary-treasurer of Cone Finishing Co., Greensboro, N. C. He succeeds **Arthur G. Poor,** now chairman of the executive committee: New vice-president is **H. M. Burke** of Lockwood Dutchess, Inc., Wappinger Falls, N. Y. **Walter R. Howell** continues as vice-president, and **Joseph E. Hoesl** has been named secretary.

Matthew C. Kurtz has joined the National Association of Hosiery Manufacturers as assistant to the secretary, Reuben C. Ball.

H. P. Loveless, Jr., of Crystal Springs Bleachery, Chickamauga, Ga., has been made chairman of the South Central Section of the American Association of Textile Chemists and Colorists. Other new officers are: **E. E. Burgner, Jr.,** Davenport Hosiery Mills, vice-chairman; **R. W. Freeze,** American Aniline Products, secretary; **Paul Anderson,** Peerless Woolen Mills, treasurer.

Donald B. Tansill, formerly with Burlington Mills Corp., has joined

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From this huge stock of Johnson Bronze Bars you can select your needs by bearing size. They are completely machined—inside diameter, outside diameter, and ends—with only a 1/64" cut to bring to bearing size. You will find many uses for them . . . bearings, bushings, washers, thrust plates, etc. And they are available from stock at your authorized Johnson Distributor and in 23 warehouses from coast to coast.

Johnson Universal Bronze is cast from highest quality bearing bronze, an alloy that cuts easily, yet is thoroughly serviceable. Cored bars are made with inside diameters from 1/2" to 7 3/4", outside diameters from 1" to 10". Solid bars from 5/8" to 8" diameters. Call your Johnson Bearing distributor.

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OVER 350 SIZES

JOHNSON JB BEARINGS
Sleeve-Type

Personal NOTES ABOUT MEN YOU KNOW

M. Lowenstein & Sons, Inc., as executive vice-president, and has been elected a member of the board of directors.

John Hutton has announced his retirement as manager of the Glenlyon Print Works Division of Sayles Finishing Plants, Inc., while continuing as vice-president and director of the firm. He will be succeeded as general manager by **Elliot Broadbent**, with the company since 1917.

The title of "Burlington's Citizen of the Year" for 1951 was recently awarded **Clayee W. Gordon**, executive vice-president of Standard Hosiery Mills, Inc., Burlington, N. C. Mr. Gordon, a director of the Southern Hosiery Manufacturers Assn. and a member of the advisory committee of the National Association of Manufacturers, has for several years served in high community and state offices in educational, religious, and civic programs.

Robert D. Devereux has been made president and general manager of Oneita Knitting Mills, succeeding his uncle, F. Ramsay Devereux, now chairman of the board and the executive committee. **Edmund G. Munson, Jr.**, is now

Mr. Devereux Mr. Kennedy

executive vice-president; and **Charles H. Wood** has been made secretary-treasurer. Other appointments are: **Richard O. Kennedy**, general works manager; **Charles F. White**, superintendent of the yarn mill; and **Miss Eileen Crampton**, administrative assistant to the president.

William J. Grede was recently elected to succeed William H. Ruffin as president of the National Association of Manufacturers. The new president is head of Grede Foundries, Inc., Milwaukee, Wis.

New executive secretary of the Southern Combed Yarn Spinners Association is **Claudius C. Dawson**, retired general manager of the Cramerton (N. C.) division of Burlington Mills Corp.

William V. Oothout, formerly general plant superintendent, has been promoted to general manager in charge of production for Wamsutta Mills.

James O. Montgomery was recently made western New York area manager for Van Raalte Co., Inc., and **William K. Lawson** was named plant manager for the firm's plants in Dunkirk and Silver Creek, N. Y.

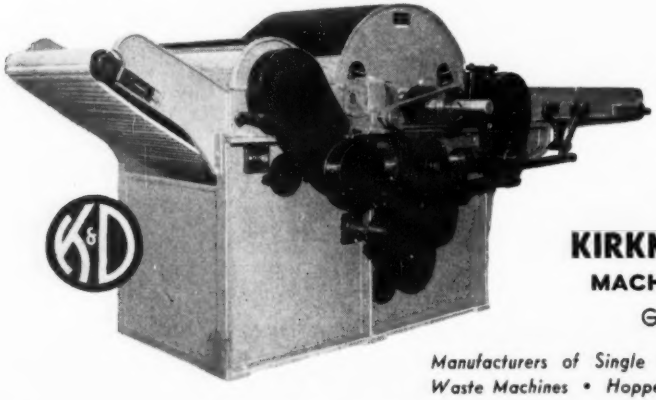
Edward Allen has retired as supervisor of maintenance for Palatine Dyeing Co., Inc., after being with the company since 1925.

Alexander G. Marshall, formerly with the Textile Banking Co., is now co-ordinator of production and sales between the Richmond Lace Works

10-POINT BETTER WASTE-PROCESSING WITH K&D SINGLE CYLINDER MACHINE

The revolutionary new principle of shredding waste twice on a single cylinder—more completely and with less stoppage than other machines employing two cylinders—has cut waste processing costs in half. Learn for yourself the profits in K&D 10-point superiority. Write today for illustrated booklet, cost, and complete details.

1. Gives double action with better results on a single cylinder.
2. 60% fewer gears, sprockets, chains, etc.
3. Eliminates need for fans and dust rooms.
4. Reduces fire hazard.
5. Occupies just half mill floor space.
6. Reduces nipping and chewing of fibers.
7. Safety guards for gears, sprockets, and chains.
8. Uses 7½ HP motor to cut power costs.
9. Fewer stops, less down time, lower repair costs.
10. Renders larger percentage usable fiber.



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mil! in Alton, R. I., and the New York selling agencies.

New officers of the Southeastern Section of the American Association of Textile Chemists and Colorists are: **S. Jack Davis,** Callaway Mills Co., chairman; **Thomas H. McCamey,** Pepperell Manufacturing Co., vice-chairman; **James Swiney,** Fulton Bag and Cotton Mills, secretary; and **W. B. Amos,** Eagle and Phenix division of Fairforest Co., treasurer.

Edward E. Burdette, formerly with Goodall-Sanford, Inc., has joined Worcester Textile Co., Greystone, R. I., in an executive capacity.

Ben F. Roeder, retired textile industry official, has succeeded **James E. Robison** as chief of the Office of Price Stabilization, Textile Branch. Mr. Robison has returned to his position as executive vice-president of Textron Inc., and president of Atlantic Parachute Corp., a subsidiary.

Harold S. Dahlberg of the F. C. Huyck & Son Kenwood Mills, Rensselaer, N. Y., was recently elected chairman of the Hudson-Mohawk Section of the American Association of Textile Chemists & Colorists. Other new officers elected were: **Irwin J. Smith,** Surpass Chemical Co., Inc., vice-chairman; **John W. Merrill,** Cluett, Peabody & Co., Inc., treasurer.

Honorary degrees of Master of Science were recently conferred by Lowell Textile Institute upon **Edward T. Pickard,** secretary of the Lowell Textile Foundation; **Walter J. Hamburger,** director of the Fabric Research Laboratories; **Harold W. Leitch,** general superintendent and director of technical laboratories for the Pacific Mills worsted division; and **George T. Metcalf,** executive secretary of the New England Textile Foundation.

Dr. E. H. Mercer, Australian wool scientist, has joined Textile Research Institute's staff for a year of cooperative study and research in connection with the International Wool Research Project.

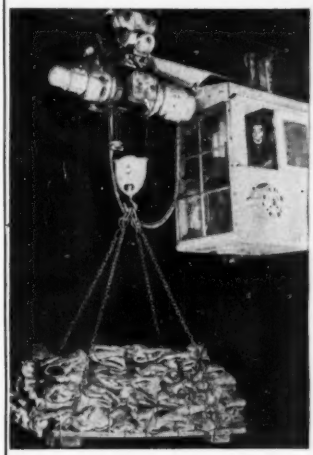
Bess Green and **Roger W. Smith** have been transferred from Memphis to the National Cotton Council's New York office, to serve as assistants to Paul M. Jones, sales promotion manager.

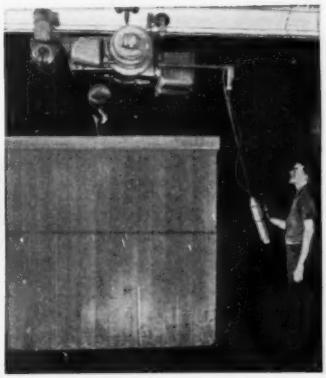
J. P. Stevens & Co., Inc., has announced the following personnel appointments: **Alester G. Furman, Jr.,**

which one is right for your job?

FLOOR-OPERATED HOIST

Operator mainly occupied with other duties.





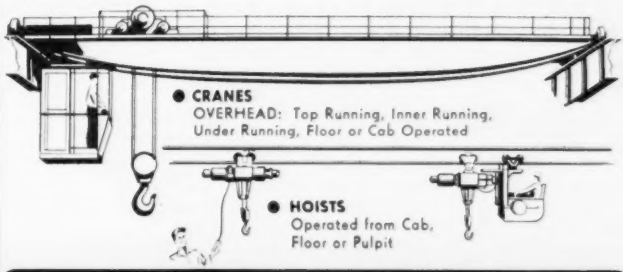
CAB-OPERATED HOIST

Operator in cab moves loads along at high speeds—occupies best vantage point for spotting or stacking.

Choosing the hoist that's right for your job calls for expert advice.

Let the Shepard Niles representative in your area guide you in your choice. He specializes in through-the-air handling — can help you select the hoist that fits your job. Write Shepard Niles today for Bulletins 127 and 177 — and ask to have a representative call.

Specialists in loads through-the-air since 1903



● **CRANES**
OVERHEAD: Top Running, Inner Running, Under Running, Floor or Cab Operated

● **HOISTS**
Operated from Cab, Floor or Pulpit

SHEPARD NILES
CRANE AND HOIST CORPORATION

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Personal NOTES
ABOUT MEN YOU KNOW

a director; **Brown Mahon, James A. Lybrand, Jr., Harold R. Turner,** and **Jesse A. White,** vice-presidents. **R. Carter Henry** has been made general manager of Jonesville (S. C.) Mills and Piedmont (S. C.) Manufacturing Co.; **Henry W. Suber,** general manager of the Whitmire and Aragon plants of Aragon Baldwin Mills division and the Industrial Cotton Mills division. At the Whitmire plant, **James H. Abrams** has been promoted to manager; **Fay E. Alexander** to assistant superintendent; **Charles B. Grant** to general overseer of carding. **M. Hurt Ramsey** is now assistant superintendent of the Industrial plant. At M. T. Stevens & Sons Co., Lawrence, Mass., **John Matthews** has been appointed manager of the engineering department, succeeding Leslie A. Runton, resigned.

Brig. Gen. G. H. Vogel, head of the Atlanta, Ga., General Depot, was recently elected president of the Atlanta Chapter of the Quartermaster Association. **Lt. Col. James C. Covington, Jr.,** was made second vice-president, and **Lt. Col. Luther Frierson,** secretary-treasurer.

Graduates of Alabama Polytechnic Institute's textile school, fall quarter, 1951, have accepted employment as follows: **Daniel D. Hall** and **Robert M. Hall,** Deering, Milliken & Co., Inc.; **Emory O. Sherrer,** E. I. duPont de Nemours & Co., Inc.; **James A. Connally,** Dan River Mills, Inc.

Hans Westkott was recently appointed purchasing agent by Berkshire Knitting Mills, Reading, Pa. He replaces **Donald Eaches,** who was transferred to the distributing office in San Francisco.

William C. Buchholz, plant superintendent, was recently elected a director and vice-president of Ackshand Knitting Co., Ballston Spa, N. Y. **Ralph E. Dunton,** office manager, is now a director and treasurer; **Robert F. Whalen,** in charge of yarn and raw stock procurement, is a director and secretary.

New officers of the Philadelphia Section of the AATCC are: president, **Edward C. Diehl,** Ankokas Dyeing & Processing Co.; vice-chairman, **Harry L. Morgan,** James Lees & Sons; secretary, **Thomas J. Scanlon,** American Cyanamid Co.; treasurer, **Frederick V. Traut,** Globe Dye Works Co.

B. D. Wilhelm, formerly assistant superintendent, has been promoted to general superintendent of Belvedere Hosiery Co., Charlotte, N. C.

Formerly with Atlantic Knitting Corp., **Irwin Redmond** has joined Kanmak Textiles, Inc., as supervisor of sales, styling, and manufacturing of knitted fabrics.

Obituaries

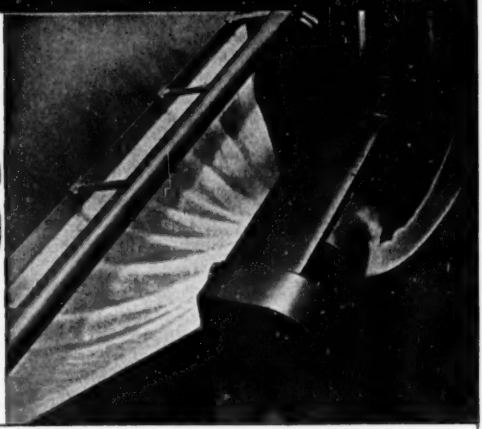
Erwin P. Wall, associated with Harris Manufacturing Co., Atlanta, Ga., before returning to active service with the Marine Corps, was killed recently in a crash of a Marine Corps plane off the California coast.

10.000.000 CARDING POINTS NEED PERFECT GRINDING ROLLS

CONSULT THE CARD-GRINDING SPECIALISTS

DRONSFIELD'S

TRAVERSE WHEEL GRINDER Nº 120



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SOLID GRINDING ROLLER Nº 112

DRONSFIELD BROTHERS LTD · OLDHAM · ENGLAND

John R. Brown, 72, died on December 10 in Clifton, S. C. From 1921-1939 he was general superintendent of the Stonewall (Miss.) Cotton Mills, and from then until 1946 represented Arnold, Hoffman and Co., Inc., in Alabama, Mississippi, Texas, and parts of Georgia and Tennessee.

Clark W. Tobin, executive vice-president of Propper-McCallum Hosiery Mills, Inc., died on January 25 after a short illness. He was 65 years old.

On January 16 **Samuel Carter Hutcheson,** 62 died. He was a director of Crystal Springs Bleachery, Chickamauga, Ga., and Peerless Woolen Mills, Rossville, Ga.

David K. McColl, 68, a leading cotton merchant and at one time president of Marlboro Cotton Mills, died on January 22 of a heart attack.

Louis de Roon, textile manufacturer, died on January 2 after a long illness. He was 66 years old.

Edward Andreae, 73, director of Yale Woolen Mills, Port Huron, Mich., died recently of a heart attack.

Funeral services were held on January 15 for **Edward T. Hyde,** 72, special assistant to the general factory manager at Saco-Lowell Shops, Biddeford, Maine. Mr. Hyde died in Daytona Beach, Fla.

Edwin Farnworth, 61, general manager of Apponaug Co., was buried on January 3.

Jefferson D. Talbert, 56, assistant treasurer of the USEO division of Callaway Mills Co., died suddenly following a heart attack.

Raymond C. Gaugler, president of American Cyanamid Co., died recently of a cerebral hemorrhage. He was 59 years of age.

J. Reese Daniel, on the sales staff of the National Aniline and Chemical Co., at Charlotte, N. C., died recently in Atlanta, Ga., at the age of 49.

Charles D. Potter, southern manager for the E. J. Feeley Co., Boston, Mass., died in Charlotte, N. C. after an illness of 10 days, at the age of 54.

Nathan H. Friedman, 62, president and founder of Harodite Finishing Co., North Dighton, Mass., died recently after an illness of several months.

HOW
AMERICA OUT-PRODUCES THE WORLD

Logan Roller Conveyors greatly increase efficiency by mechanical handling through packing and shipping operations. Note turntables to "position" cartons properly.

1 American industry—"Brings the work to the men instead of sending the men to the work"

When materials and parts are brought mechanically to work stations, human hands are free for purely productive operations. The result—greatly increased output, and with less tiring effort. It's the American way.

Logan Conveyors have been an integral part of the nation's "mechanical handling picture" for two generations. In textile plants Logan equipment keeps textile equipment operating at capacity, delivers work in process through spinning and weaving, handles incoming raw materials, outgoing finished cloth—brings the work to the operators all down the line.

Write for literature or for nearest engineer to call.

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A Shuttle in Need Is a Friend Indeed

Keep ahead of your shuttle needs with a continual check on your shuttle inventory. Time is needed for Watson-Williams to give you the dependable shuttle that meets YOUR exact requirements. Therefore, order well ahead of time so that we can maintain your shuttle deliveries.

Watson-Williams will continue to supply you with quality shuttles as quickly as possible — shuttles with the latest improvements — to increase your production and cut down your weaving problems.

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- **ALL THE NEW FABRICS!**

Write now for your complimentary trade guest tickets to

Reader Service Dept.

TEXTILE INDUSTRIES

806 Peachtree Street, Atlanta 5, Ga.

What the TEXTILE MILLS are doing

Land just outside of Indianola Miss., has been selected as the site of a $700,000 jute processing plant, to be constructed for **Ludlow (Mass.) Manufacturing and Sales Co.** It is estimated that the plant will give employment to about 300 persons.

Seventy-three service pins were recently presented by T. D. Meriwether and P. H. Hanes, Jr., vice-presidents of **P. H. Hanes Knitting Co.,** to employees who had completed twenty years or more with the company.

The property of **Scola Piece Dyeing and Finishing Works,** Hawthorne, N. J., has been sold to a group of employees and the firm's name changed to **Scola Dye Works, Inc.**

A lease agreement was recently entered into between **Erwin Mills, Inc.,** and the city of Durham, N. C., under which the city will use the mills' Lyceum Building for a community building and recreation center. The agreement provided that no consideration would be paid by the city.

The Barnhardt Manufacturing Co., Charlotte, N. C., has moved into a modern new plant containing 40,000 sq ft floor space.

The building of Shuford Hosiery Mill, Hickory, N. C., has been acquired by **Shuford Mills, Inc.**

Rosedale Knitting Co., Reading, Pa., has been dissolved and four of its buildings leased for five years to Western Electric Co.

The Barbour Hospital Association of Eufaula, Ala., was recently given $15,000 by **Cowikee Mills** for the purchase of a site for a new hospital.

M. Lowenstein & Sons, Inc., have under construction a rayon and synthetic fabrics mill at Anderson, S. C. The plant, which will cost approximately $2,500,000, will be known as the John A. Lyons division of Orr Mills. It is reported that spinning machinery half as wide as conventional spinning machines and producing extra large bobbins, will be installed. A new model box-type loom will be used, and cards are being obtained from a British manufacturer.

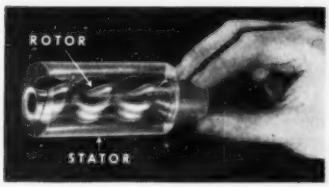
Four subsidiaries of **Cone Mills Corp.,** Greensboro, N. C.—Mineola Manufacturing Co., Gibsonville; Eno Cotton Mill, Hillsboro; Salisbury (N. C.) Cotton Mill; and Cliffside (N. C.) Mills—are being merged with the parent company.

Celanese Corp. of America has announced the reduction of weaving, dyeing, and finishing productive capacity in its woven fabric manufacturing operations, and the closing of its Cumberland, Md., dyeing and finishing plant this summer.

Jackson Mills, with plants at Wellford and Iva, S. C., have announced that henceforth all regular employees with five or more years of continuous service will receive two weeks' vacation pay each year. The firm has also set up the Alfred

HOW IT WORKS

shows why the MOYNO has all these Advantages:



Rotor and Stator Form the Progressing Cavities

Rotor might be described as a stretched-out corkscrew. The stator is like it but has a *double* internal thread. As shown in the illustration, the rotor and stator thus form closely fitted cavities. As the rotor revolves, the material constantly moves or progresses within these cavities toward the discharge end.

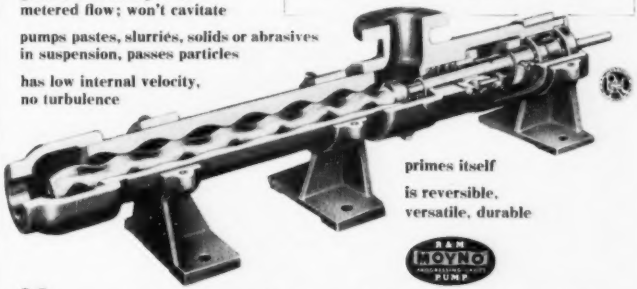
Thus material is moved quietly and steadily, with a minimum of turbulence. And because of these cavities, the material may be a paste; it may contain solids in suspension; abrasive slurries are no problem.

pumps practically anything

gives continuous positive metered flow; won't cavitate

pumps pastes, slurries, solids or abrasives in suspension, passes particles

has low internal velocity, no turbulence



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Details, specifications, and a more complete explanation of how Moyno pumps work and what they can handle. Call the nearest R&M Moyno man, or write Robbins & Myers for a copy.

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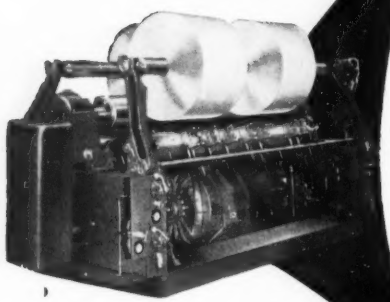
BEFORE YOU BUY—

consider

the new B&S

duplex REWINDER



OUTSTANDING FEATURES:

- Simplicity of design
- Variable-speed Drive
- High speed (up to 1500 ft. p.m.)
- Compact—saves space
- Vibrationless
- Hydraulically driven differential Rewind Shafts
- Air-Operated Slitters for strips as narrow as ⅛ inch
- Accurate pressure control between Drum and Rewind Shafts
- All hydraulic and air Piping enclosed in Frame
- All Controls easily accessible
- Ease of operation and maintenance
- Efficient and economical

The new B&S #15 Duplex Rewinder is powered by a Louis Allis Eddy Current Type Variable-speed Drive. A variable volume pump driven by an A. C. motor supplies power to the rewind shafts, and the winder is powered by the Eddy Clutch. By placing the entire drive beneath the machine, B & S designers have saved valuable floor space.

Accurate pressure control and precision winding are achieved by pneumatic cylinders for raising and lowering the rewind arms. For full center winding rewind shafts can be locked in "out" position.

To eliminate all possible vibration, the B & S Duplex Rewinder is mounted on heavy cast-iron bedplate. Fully enclosed piping and easily accessible controls assure smoothness and efficiency in operation, as well as ease and economy in upkeep.

For further details write to The Bagley & Sewall Company, 500 Fifth Avenue, New York 18, N. Y.

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QUALITY MACHINERY
SINCE 1853

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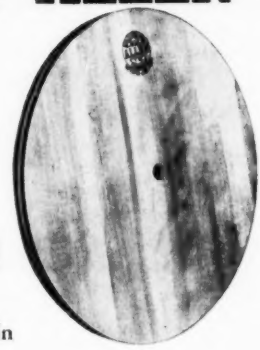
"I'VE USED THEM FOR 35 YEARS"

Genuine **ALLEN**

HIGH-SPEED WARPER BEAM HEADS AND WARPER BEAMS



Place your confidence in warper beam heads that have proved they can handle and protect your yarn under the toughest conditions of operation and shipping. Based on 35 years of know-how — constantly improved during that time — Allen Beams are products of time-tested experience. Get the real thing, and receive the highest standard of beam head service.

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General Offices — 151 River Road
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Representatives in all Textile Localities
and all Principal Countries of the World.

"GOOD WARPS ARE MADE ON GOOD BEAMS"

Moore Foundation, which is planned to promote educational and other undertakings among families of employees. The offices at Wellford are being enlarged, a $30,000 addition being contracted for.

Under construction at Fort Mill, S. C., is a most modern office building, to be occupied by **The Springs Cotton Mills.** Besides housing the executive offices of the firm, the building will contain laboratories and pilot plant equipment. One unusual feature planned for the office of Col. Elliott Springs is an elevator arrangement by which a conference table will rise from the floor, to create space for board meetings and conferences by a mere push of a button.

The mill and equipment of **Georgia Twine & Cordage Co.,** Forsyth, Ga., have been purchased by Hugh Hardin, local textile man.

J. & P. Coats (R. I.) Inc., Pawtucket, R. I., has merged with the **North Georgia Processing Co., Inc.** The name of the merged firms will be **J. & P. Coats, Inc.**

Minneapolis (Minn.) Knitting Works, a subsidiary of **Utica Knitting Co.,** are transferring a large portion of their production to mills at Utica, N. Y. and Anniston, Ala., operated by Utica Knitting, and key supervisory personnel is being shifted to the new locations.

A new department for the manufacture of spun yarns has been put into operation at **Stonecutter Mills Corp.,** Spindale, N. C.

Philadelphia Dye Works is the new name for the merged firms of **S. & M. Dye Works, Inc.,** and **Walter E. Knipe & Sons, Inc.** All principals of both companies will remain with the new organization.

Utica and Mohawk Cotton Mills, Inc., has been merged with **J. P. Stevens and Co.** Its two mills at Seneca and Clemson, S. C., will be operated as the Utica and Mohawk division of J. P. Stevens, and will be managed by Ralph T. Marshall, former president of the firm.

The Joe Bradley School, Huntsville, Ala., formerly owned by **Huntsville Manufacturing Co.,** was presented to the Madison County school system at recent ceremonies.

The cotton spinning operations of **Monarch Knitting Co., Ltd.,** are being moved from Toronto, Ont., to an air-conditioned building at Ajax, Ont. The underwear manufacturing plant of the company is also scheduled to be moved. New machinery will be installed at both plants.

A power distribution plant has been installed by **Palatine Dyeing Co., Inc.,** St. Johnsville, N. Y., to accommodate the firm's textile machinery.

An estimated $50,000 damage was done recently by a fire at **Palmetto Worsted Mill,** Laurens, S. C.

Operating as **Decatur Dyeing & Finishing Division,** a new plant of **Baxter, Kelly & Faust,** plush manufacturer, has begun dyeing and finishing operations in Philadelphia. The Decatur division will specialize in the dyeing and finishing of knit goods.

Sanson Hosiery Mills, Inc., has closed its experimental plant in Los Angeles and moved the bulk of its equipment to the firm's Emmaus, Pa., mill.

Box loom weaving is being discontinued at the Danielson, Conn., plant of **Powdrell & Alexander, Inc.,** and will be done by **Gosnold Mills Corp.,** New Bedford, Mass., a subsidiary. Other operations are unchanged.

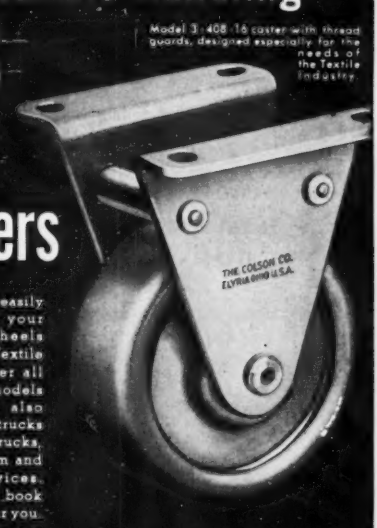
What the TEXTILE MILLS are doing

The **Apponaug (R. I.) Finishing Plant** has been acquired from the Aspinook Corp. by Frederick G. Brown and a group of associates, with the additional financial support of **Joseph Bancroft & Sons Co.** and the **Lamport Co., Inc.** Mr. Brown was president of the Apponaug Co. prior to its coming under the Aspinook control in 1950, and has been general manager since that time.

A pension provision for the wage-earning employees of its Carolina mills has been adopted by **Kendall Mills,** the plan now awaiting approval by the Wage Stabilization Board.

Carding, picking, and spinning machinery has been moved from the

Cut Your Materials-Handling COSTS with Roll-Easy Colson Casters


Model 3-408-16 caster with thread guards, designed especially for the needs of the Textile Industry.
THE COLSON CO. ELYRIA OHIO U.S.A.

Rolling stock that doesn't roll easily cuts efficiency and profits in your mill. Colson *specializes* in wheels and casters engineered for the Textile Industry. They roll easily over all floors, are rust-resistant—many models have thread guards. Colson also manufactures a wide range of trucks for the Textile Industry—hand trucks, platform trucks, box trucks, drum and barrel trucks and special devices. Write us or consult your phone book for the Colson representative near you.

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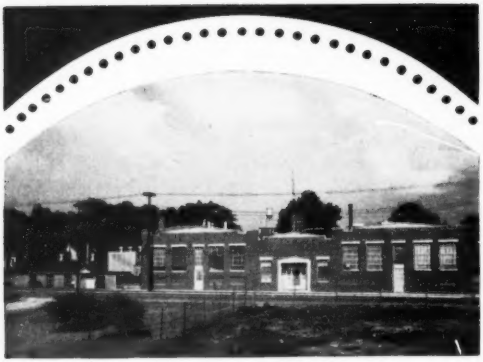
CASTERS • • LIFT JACK SYSTEMS • • INDUSTRIAL TRUCKS



Built on Customer Confidence

It takes more than men and machines and technical knowledge to produce a traveler that consistently meets the highest quality standards. It takes an appreciation of our customers' needs, plus a sense of responsibility in our contribution to his continued growth and success.

That is why down through the years the home of Carter Travelers has become known as

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TANNER TEXTILE CHEMICALS

VERSENE FE 3 Specific*
Most powerful iron complexing agent known in normal pH range.

VERSENE*
Most efficient general complexing agent. Softens water completely and permanently without precipitation.

••THE *Versenes*

VERSENE T*
Prevents and removes iron deposits from fabric treated with concentrated caustic.

VERSENE FE 3*
Prevents hard water deposits and iron stains.

VERSENES AND TEXTILES

The Chas. S. Tanner Company, as Southern Agents for the Bersworth Chemical Co., now offers you the Versenes in the South. By controlling metallic contamination, these most modern of chemicals give *cleaner* fibres, *softer* woolens and visibly *whiter* cottons. Among other things, they completely soften hardest water without precipitation.

OTHER TANNER CHEMICALS

Suedex Series.
These Resin Emulsions are semi permanent and easy to use in process finishing. Color yield is excellent and they give varying degrees of stiffness, fullness and finish on broadcloth and cottons of 80 squares.

Crystal Film.
These are Co-polymer type resins. They give beautiful transparent finishes. There are four types. Similar to Suedex in function but are used where even finer finishes are desired.

Ether Gum Binder.
For all types of clay or talc fillers for cotton goods. Non-yellowing properties.

Tantex A and Tantex B.
The *Durable* Type Water Repellent. Cottons treated the single bath Tantex way will retain their repellency for 3 washings or 3 dry cleanings. It will pay to investigate.

CST Gum No. 5.
A weighter type material. Used as a finish but imparts much weight to the fabric.

Tanamine Series of Softeners.
This is a complete line of cationic, anionic and non-ionic softeners.

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CHAS. S. TANNER CO. *manufacturing chemists*
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1815 LIBERTY LIFE BLDG. CHARLOTTE, NORTH CAROLINA
Home Office: Providence, Rhode Island

What the TEXTILE MILLS are doing

Merrick Mills, Holyoke, Mass., to Newnan, Ga. Merrick Mills are a division of American Thread Co.

Real estate and machinery of **Harris Emery Co., Inc.,** Pennacook, N. H., were recently sold at public auction.

Auction of **River Mills Corp.,** Fall River, Mass., was cancelled and the plant is again in operation.

Three British lace machines have been purchased by **Nottingham Lace Mill,** Hope Valley, R. I., and the mill is now in full production on nylon laces.

The Ansonia, Conn., mill of **Ansonia Mills, Inc.,** has been closed and machinery either sold or moved to the East Taunton, Mass., plant.

The new plant of the **Bishopville (S. C.) Finishing Co.,** a division of Reeves Bros., Inc., just completed, will be equipped with modern machinery for the processing of synthetic fabrics produced by the Reeves group. A feature of the plant is the processing of wide, heavy material.

New broadcloth pre-shrinking process and machinery have been purchased from the Mount Hope Finishing Co. by **The Springs Cotton Mills,** Lancaster, S. C., and installed at Grace Bleachery.

The **Statesville (N. C.) Throwing Mill** has been purchased by William Rabinowitz & Sons, Allentown, Pa., dealers in textile machinery.

A plant for fancy yarn processing, both synthetics and cotton, known as **Henry F. Thomas, Inc.,** has been opened at Forest City, N. C. The firm is engaged in winding, twisting, and selling yarns to the weaving and knitting trades. It also has facilities for commission winding and twisting.

A new plant near Dobson, N. C., will, when completed, be leased by **Washington Mills Co.,** according to a recent announcement. It will be used for manufacture of men's and boys' lightweight underwear.

An extensive modernization program has been completed at Plant No. 3, Stonewall, Miss., of **Erwin Mills, Inc.,** including new brick and concrete warehouses, a new card room adjoining Mill No. 2, and a new one-story weave shed. Air changing with provision for refriegration was provided in the carding, spinning, and weaving departments.

Malibu Fabrics, Inc., New York, N. Y., has reached an agreement with **Textiles Morelos de Cuernavaca of Mexico** for the manufacture of broad woven elastic goods of Malibu Fabric construction for sale to the Latin American trade. Textiles Morelos is a mill subsidiary of Burlington Sales of Mexico, an affiliate of Burlington Mills International. Sidney J. Gluck is head of Malibu Fabrics.

21,000 sq ft of warehouse and manufacturing space at Andrews, S. C., have been leased by **Oneita Knitting Mills,** Utica, N. Y., for a pilot plant to be operated for the manufacture of shirts and shorts. John J. Ward of Utica has been named manager of the new plant.

A new cotton department, located at Trion, Ga., has been organized to buy all the cotton used by **Riegel Textile Corp.** Mason J. Florence is manager.

Verney Corp., Manchester, N. H., was recently awarded a Certificate of Cooperation by the United States government for its cooperation in furnishing technical assistance to the people of the Marshall plan countries.

West Point (Ga.) Manufacturing Co. has plans for an addition to the basement of Shawmut (Ala.) Mill No. 2.

Additional equipment for handling mohair, pile fabrics, and other textiles is being installed by the **National Dyeing & Finishing Corp.,** Culver City, Calif.

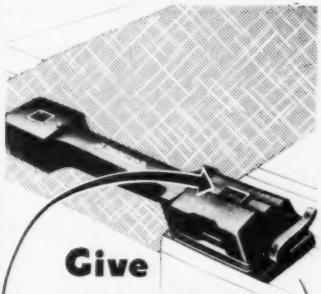
A textile mill at Cheswold, Del., is being built for **International Latex Corp.** The cost is reported to be nearly $1,000,000, with equipment.

Alterations and improvements in the boiler house of its **Marland Mills,** Andover, Mass., have been undertaken by **M. T. Stevens & Sons Co.**

Lowell Textile Institute has plans under way for extensions and improvements in its power plant.

Quitman (Miss.) Manufacturing Co., is planning an addition to the mill, to be equipped as a finishing unit.

Gerry Wasserberg, 855 Sixth Ave., New York, N. Y., is attorney and representative of **Lord & LadyKnit, Inc.,** recently chartered for the op-



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can be fixed to most Inspection, Plaiting, Winding, Rolling and Doubling machines. Models are available for all types and widths of material — fine nylon, woolens, worsteds — even carpets, plastics, etc. It adds one way — subtracts the other, and delivers its printed ticket with one depression of a lever. "TRUMETER" is always accurate — always reliable. There's one for *your* need. Write now for particulars of complete line.

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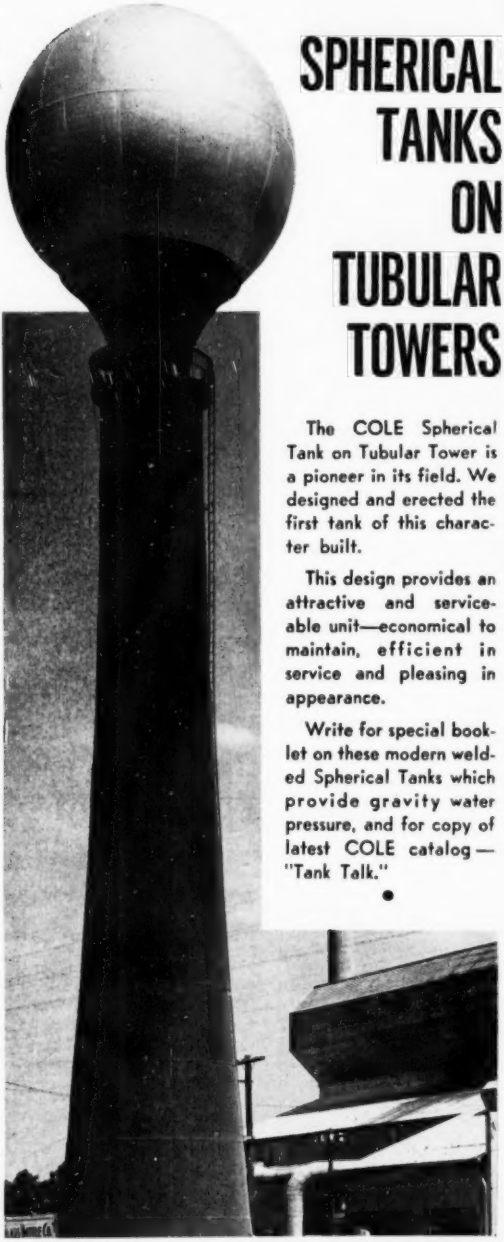

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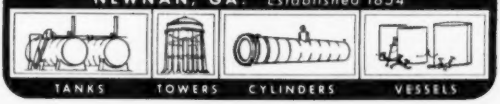


TANKS TOWERS CYLINDERS VESSELS

What the TEXTILE MILLS are doing

eration of a knitting mill for outerwear.

Ribbon Tubing Manufacturing Corp., recently organized, will manufacture narrow fabrics, according to Saul I. Radin, 37 Wall St., New York, N. Y., attorney and representative.

One of its three plants at New York Mills, N. Y., is being closed by **A. D. Juilliard & Co., Inc.** Corduroys, velveteens, etc., have been produced there.

Washington Mills Co., Winston-Salem, N. C., will lease a building being erected at Dobson, N. C. The plant will be one-story, modern type, and equipped for sizable output.

Associated Spinners, Inc., Gastonia, N. C., are constructing a one-story addition to the mill, to be equipped for production of synthetic yarns.

A one-story addition to the mill is under construction by **Glen Raven (N. C.) Knitting Mills, Inc.** Equipment will include eight tricot machines.

The **California Cotton Mills** division of **National Automotive Fibers, Inc.**, has under construction an addition to its Salem, Ore., mill, specializing in the manufacture of all-linen floor coverings of woven type.

Seymour Woolen Co., Inc., Pawtucket, R. I., was recently organized to succeed to company of the same name, and has filed notice of change of name to Seymour Industries. The firm specializes in manufacture of woolens and worsteds for men's and women's wear.

Arrangements have been made by **Stillwater Worsted Mills, Inc.**, Harrisville, R. I., for an increase in capital to $4,000,000 for general expansion in operations. **Harrisville (R. I.) Co.** was recently acquired by the firm under a five-year lease.

J. C. and P. E. Herrin, of Albemarle, N. C., are president and vice-president, respectively, of the newly chartered **Herrin Hosiery Mills**, Lamar, S. C. Full-fashioned women's hosiery and men's socks will be manufactured.

The Joseph Noone's Sons Co., Peterborough, N. H., has been acquired by **F. C. Huyck & Sons (Kenwood Mills)**, Rensselaer, N. Y.

Dawson, Ga., has been selected as the site of a new hosiery plant, according to James G. Wright, head of the new enterprise. Equipment owned by Mr. Wright and used in the plant of the **Albany (Ga.) Manufacturing Co.**, will be moved to the new plant.

Two one-story additions to the plant are under construction at **Deltox Rug Co.**, Oshkosh, Wis.

Alfred (Ont.) Knitting Ltd. has an expansion program under way, which includes installation of a number of new knitting machines and auxiliary equipment.

United Cotton Mills Ltd., St. Johns, Newfoundland, is reported to be planning new additions to the mill for increased capacity. Cost is expected to be $4,000,000.

Thomas J. Finn, Jr., is president and Raymond E. Shea, treasurer, of the newly organized **Salisbury Textiles, Inc.**, Worcester, Mass.

Pennwood Mills, Inc., Egg Harbor City, N. J., has plans for a one-story addition to the mill, to be equipped with new tricot machines and auxiliary equipment.

Mount Hope Finishing Co. has concluded arrangements for the purchase of **Creedmoor (N. C.) Co., Inc.**, recently organized to operate a dyeing and finishing mill for nylon and rayon fabrics.

Kenneth W. Marriner is head of **Marriner & Co.**, Boston, Mass., recently organized wool top manufacturing firm.

Chester (Pa.) Lace Mills, Inc., which discontinued operations sometime ago, is reported planning for liquidation of the company.

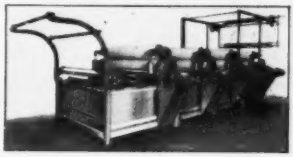
Tennessee-Eastman Corp., a subsidiary of Eastman Kodak Co., plans a new addition to its mill at Kingsport, Tenn., for increased capacity.

Wamsutta Mills have moved their New York offices from 47 East 34th St., to the Empire State Building.

The mill machinery at the **Draper State Prison Mill** of Alabama has been sold to Nicaragua, according to officials of the prison, for $65,000.

Verney Corp. of Canada Ltd., sold several years ago to Jacob Ziskind of Fall River, Mass., has been acquired by a Montreal group headed by Fred Tabah.

MODERN
FINISHING MACHINERY



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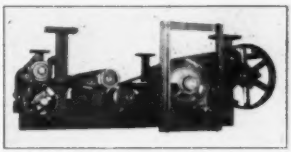
A machine of stainless steel construction, designed so that additional units may be readily added. A standard machine which with proper modifications may be used for Boiling-Off, Scouring, Crabbing, Dyeing or Open Soaping. A roller bearing equipped machine with the pressure applied to rubber squeeze rolls by air cylinders. Drive by D.C. motors controlled by Dancer Rolls. Used on Pile Fabrics, Cottons, Rayons, Rayon Blends, Gabardines, Worsteds and Woolens.



HIGH SPEED BALL BEARING SCUTCHER

with Motor Drive for Cottons and Rayons.

OUR PATENT "SUPREME" BUTT-SEAM GREY ROOM SEWING MACHINE

fitted with Merrow Head. This is a machine for use in the grey room where production is important. Simple in design.

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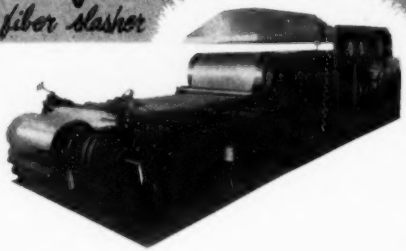
Leading Cotton Mill replaces 3 cotton slashers with 1 Johnson all-fiber slasher



Turns Out EQUAL PRODUCTION

Determined to cut costs in its slasher room, an important southern cotton mill had us work with them to determine the cost of replacing three old cotton slashers with a modern ALL-FIBER JOHNSON 9 cylinder slasher.

The indicated savings were so impressive that this mill immediately placed an order for a modern Johnson machine.

Labor, steam, floor space, and replacement part requirements are sharply reduced. Better cotton warps are assured. Loom production is increased. If the mill decides to go into synthetics, it has a machine that will do a superior sizing job on rayon, spun rayon, acetate, nylon, orlon, and other yarns — at high production speed.

If you are interested in lowering your sizing costs, write us about our Johnson Sizer Check-up. It may uncover large savings in your slasher room. No obligation is involved.

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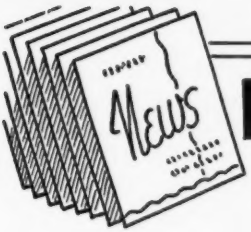
New England and Canadian Representative: J. S. FALLOW & CO., New Bedford, Mass.
Southern Representative: LUCAS ASSOCIATES, INC., Charlotte 1, N. C.



HELPFUL Booklets FREE

Here is the "cream of the crop" of literature on textile subjects as prepared by TEXTILE INDUSTRIES' advertisers to aid in mill operation and management. These reference books and catalogs are free for the asking and there is no obligation involved. Read through the list carefully for booklet on the subject or new Equipment in which you are interested. Then fill in the numbers of those desired on the coupon on page 244 and mail it to TEXTILE INDUSTRIES. ("First Listings" shown below are not confined solely to TEXTILE INDUSTRIES' advertisers.)

This service is restricted to those engaged in operation and management of textile industries.

3-1 Textile Leathers. New three-color folder illustrates and describes the varieties of Tannate Leather products offered by J. E. Rhoads & Sons. Included is the Bicut Check Strap, Straight Check Straps, Jack Straps, Lug Straps, Harness and Holdup Straps. There is also a section devoted to flat leather belting for textile drives. J. E. Rhoads & Sons, 35 N. Sixth St., Phila. 6, Pa.

3-2. Day-Glo Colors. A new booklet brought out by Switzer Brothers, Inc., explains who the brothers are, and what the patents which they hold on DayGlo products cover. Textile men interested in manufacturing these products can get full information on the licensing plan and other pertinent information from this booklet. Switzer Brothers, Inc., 4732 St. Clair Ave., Cleveland 3, Ohio.

3-3. Air Conditioning. New engineering booklet describes the Buffalo Model "G" Air Conditioning Cabinets, which are described as being available in both horizontal and vertical models in sizes from 875 to 22,000 cubic feet of conditioned air per minute. Included are capacity tables, diagrams, charts and detail photos to aid in the selection of the proper unit for given conditions. Buffalo Forge Company, 490 Broadway, Buffalo, N. Y.

3-4. Cost Work Sheet. New "Dollar Cost" work sheets are available on request for your personal use in analyzing your handling problems, locating new sources of production efficiency through better handling and as an aid in estimating your present cost of handling. You retain these forms for your own confidential use and will help form a good picture of your potential efficiencies and economies made possible by the use of Conveyors. Logan Co., Louisville, Ky.

3-5. Laboratory and Production Control. New 60 page catalog describes this company's complete line of X-Ray Diffraction and GeigerCounter X-Ray Spectrometric Equipment in addition to x-ray diffraction, spectrometry and fluorescence analysis, the catalog covers such components and accessories as tubes, rectifiers and cameras. Information is also supplied on applications for x-ray instruments along with typical charts showing how specimens differ when analyzed by this instrument. North American Philips Company, Inc., 750 South Fulton Ave., Mount Vernon, N. Y.

3-6. Impregnating and Drying Equipment. New bulletin describing this company's vacuum pressure impregnating system and explains its operation. This equipment is used for treating materials for waterproofing, fireproofing and insulating and can be adapted to any impregnating job in this field employing the vacuum-pressure cycle or any part of it. Process Industries Engineers, Inc., Pittsburgh 6, Pa.

3-7. Corrosion Resistant Floors. Bulletin AB17 entitled "How to Build Corrosion Resistant Floors" describes in detail how to construct acid-proof brick floors. Also describes the uses of Acid Brick, the application of different types of cement, shows detailed drawings of various types of floors, as well as actual installation photos. The U. S. Stoneware Co., Akron 9, Ohio.

3-8. Electronic Humidity Control. Bulletin F-5090 describes a "package" unit for electronic control of textile mill humidity. Illustrated data gives detailed control description, specifications and installation diagram. Barber-Colman Company, Rockford, Ill.

3-9. Power Sweepers. Bulletin S-101 illustrates and describes Wilshire Power Sweepers for industrial sweeping. Comparative operating data is given on each sweeper as a guide to selecting the correct model and size for specific requirements. Sweeping costs may be reduced as much as 75%, according to the bulletin. Wilshire Power Sweeper Co., 526 W. Chevy Chase Drive, Glendale 4, Calif.

3-10. Sant' Andrea Systems. Officina Meccanica SANT' ANDREA, Novara, Italy, has published an illustrated booklet describing their recently developed system for the processing of long staple synthetic and chemical fibers. This booklet is available through SANT' ANDREA'S U. S. agent. Ernest L. Frankl Associates, 22 East 40th St., New York 16, N. Y.

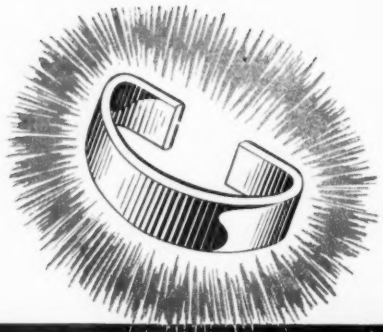
3-11. Thermocouple Glands. Conax Thermocouple Gland Bulletin 951 describes these Glands as being designed for use with bare wire for more accurate temperature measurements of gases, vapors or liquids and having the exclusive feature of using talc as a sealant. Bulletin states that these Thermocouple Glands may be used at temperatures ranging from ambient to over 1500° F. Conax Corporation, 4515 Main St. Buffalo 21, N.Y.

3-12. Plastics Machining Notebook. Colored notebook tells how to save time and money in fabricating laminates, fibre, mica, fabric-based plastics etc. Pictures show how these plastics can be handled to turn out finished products, and the book should simplify ordering and cut down on the waste of materials. Continental-Diamond Fibre Company, Newark, Dela.

3-13. Corrosion-Resistant Fittings. A new catalog on Speedline corrosion-resistant fittings illustrates types and sizes, and describes exclusive features of the fittings now available in several stainless analyses. 20 pages gives full information with pictures and diagrams. Horace T. Potts Co., Erie Ave. and D Street, Phila. 34, Pa.

3-14. Centrifugal Extractors. New 16 page catalog on Centrifugal Extractors, handsomely printed in color, contains illustrations, specifications, construction details and foundation plans for a wide variety of extractors, with baskets from 20" up through 108" in diameter. Tolhurst Centrifugals Division, American Machine and Metals, Inc., East Moline, Ill.

Coupon page 244 will get you complimentary tickets to Knitting and Allied Crafts Exposition



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Right-Hand Men

Throughout the spinning and twisting industry Dary Ring Traveler representatives are respected as "right-hand men" wherever traveler problems arise.

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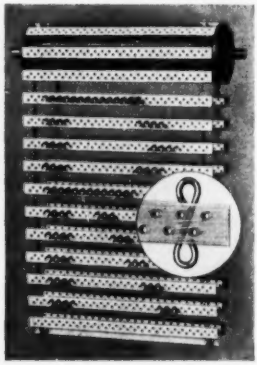
The Improved bar with clear peg holes and eyes that will not twist. Made of thoroughly air dried stock.



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- Leather and Fibre Adjusting Strap
- Special Braided Loom Cord
- "Wirecore" Loom Cord
- Pick Arm Lug Strap
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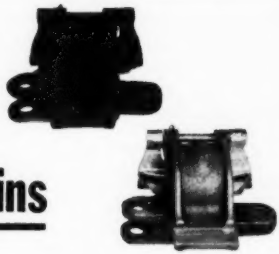

COMPARE these two tenter chain links. Top one, covered with baked-on grease and resin, is shown as it was removed from service. Bottom one, after only one hour and ten minutes of Oakite soak cleaning, is—and looks—as good as new. And the cleaning was easy—no volatile solvents, no laborious scraping—a minimum of downtime.

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4 **HOW FACTORING CAN INCREASE PROFITS**—Describes how factoring works out in keeping clients' capital liquid and attitude of factor toward checking credits, including typical balance sheet.—COMMERCIAL FACTORS CORP., 2 Park Ave., New York City.

12 **CONDENSED LISTINGS**—8 page pocket sized booklet listing by plan flow the machinery and mill supplies available. Designed to help purchaser in grouping his orders to greatest advantage.—ATKINSON, HASERICK & CO., Boston, Mass.

16 **TEXTILE RESEARCH** — Booklet describing Research Department's commercial scale facilities for cotton spinning, worsted spinning, etc. Explains organization and function of department.—AMERICAN VISCOSE CORP., SYLVANIA DIV., 350 Fifth Ave., New York, N. Y.

17 **A FAIR DAY'S PAY AND IN RETURN A FAIR DAY'S WORK**—8-page booklet outlining the services offered to industry for the proper utilization of labor, material and equipment, and the resulting advantages for both labor and management.—AMERICAN ASSOCIATED CONSULTANTS, INC., 250 Park Ave., New York, N. Y.

18 **FACTORING**—Information available on how factoring works to aid client in keeping capital fluid and to avoid credit losses. Inquiries regarding these services welcome.—L. F. DOMMERICH & CO., 271 Madison Ave., New York 16, N. Y.

19 **INDUSTRIAL BUILDING**—A 32-page booklet entitled "U.S.S. 12, USS 17 Stainless Steel Walls and Roofs for Industrial Buildings," is now available for distribution. This publication illustrates the use of type 410 and type 430 Stainless Steel Sheets in the construction of industrial and semi-industrial buildings.—U. S. STEEL CO., 525 William Penn Pl., Pittsburgh 30, Pa.

20 **VISION TESTING EQUIPMENT** — Pamphlet entitled "What You Can Expect from a Good Vision Program," written by a prominent personnel director. Also circular describing the Keystone Occupational Visual Service.—KEYSTONE VIEW COMPANY, Meadville, Pa.

21 **CHROMIUM PLATING** — New booklet tells how Walhard engineered hard chromium plating service works for industry. Walhard's capacity to produce, controlled quality, and economical operation are discussed along with pictures of the operations.—WALTON AND LONSBURY, Attleboro, Mass.

PLANT AND PLANT MAINTENANCE

107 **FINNELL SCRUBBERS** — Illustrated leaflets describing and giving specifications for the Finnell floor scrubbing machines.—FINNELL SYSTEM, INC., Elkhart, Ind.

111 **INDUSTRIAL FANS**—Catalog sheets with specifications describing the complete line of Murray Industrial fans for plant ventilation. Seven sizes described from 24" with ½ HP motor delivering 5700 CFM to 54" with ¾ HP delivering 17,386 C.F.M. with advantages of heavy gauge metal construction brought out.—H. C. BIGLIN CO., 177 Harris St., N.W., Atlanta, Ga.

113 **COTTON MILL EQUIPMENT**—This book traces pictorially the steps in processing raw cotton into finished cloth. It shows the equipment needed for all phases of production, as well as containing a "Useful Information" section on Power Factor Correction, Lighting, Circuit Protection, etc.—WESTINGHOUSE ELECTRIC CORP., 511 Wood St., Pittsburgh 30, Pa.

116 **PROTECTIVE COATINGS**—Bulletin No 7-1 lists and gives uses of the complete line of Corrosion-Proof Protective Coatings.—ATLAS MINERAL PRODUCTS CO., Mertztown, Pa.

117 **CLEANING SYSTEMS**—Booklet entitled "Certified Climate and Cleaning Systems" gives latest information on system.. Products and uses fully discussed with two story layout of Certified Climate central station air conditioning system.—PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

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Hundreds of mill operators have found by actual experience that the *most economical* leathers to use are the *finest they can buy*—which, of course, means

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"The Leather with the Hour on"

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TEXTILE LEATHERS

Why not try them on your own looms?
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Check your card screens now. You cannot produce top grade textile products without precision fitted screens. Even sliver never comes from worn screens.

Today, as never before, it is important to replace or repair equipment *before* it becomes trouble. Sims is equipped to repair your re-usable equipment or furnish you with replacement parts. Check your equipment now, then call Sims.

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1. Spinning Cylinders
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Get the Sims CHECK LIST habit—check your equipment against the stock replacement parts list at left. It's a money saving habit.

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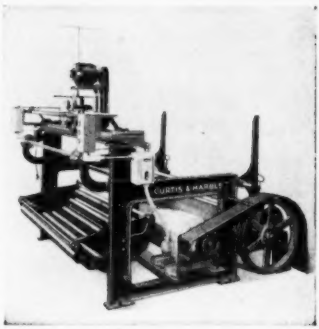
METAL WORKS
WEST POINT, GEORGIA

No. 55 Railway Sewing and Rolling Machine

with either Singer Head for common chain stitch seam or Merrow Head for flat butted seam.



The cloth from the loom bolt is placed in the cradle in front, and the ends are stitched together as fast as the goods are unrolled from the loom bolt, and as many pieces as desired are rolled up in a large roll ready for the next machine.

This newer model has several improvements over the older style No. 25 and No. 55 machines. The rolling-up rolls run in ball bearings, and are connected by roller chain. The front roll is driven from a brake motor by V belts. A new pattern main frame permits putting the motor inside, out of the way.

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Gone the old yarn-storage bin.

Style 21 stacking type

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Canvas Boxes

Doff—wind—condition—store.
Function from spindle to loom.
No more dumping into splintery bins.
Just tier up boxes till needed.
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155 DUCTLESS AIR CONDITIONING—24-page illustrated Catalog No. 2 on Amco humidification and ductless evaporative cooling, along with other Amco humidification devices. Contains relative humidity tables and textile regains.—AMERICAN MOISTENING CO., Providence, R. I.

181 AIR FILTRATION AND DUST CONTROL—Booklet on atmospheric control, including engineering data on systems.—AMERICAN AIR FILTER CO., INC., 275 Central Ave., Louisville 8, Ky.

189 POWER-ROOF VENTILATOR—Propellair Sky-Blast roof ventilators with airfoil section propeller 16" to 60" in diameter; air deliveries 2820 to 41,000 CFM described in bulletin 680.—ROBBINS & MYERS, INC., Propellair Div., Springfield, Ohio.

191 FLOOR MAINTENANCE IN TEXTILE MILLS—Illustrated folder describing reconditioning, protection and maintenance of mill floors. Includes data on vacuumized dry-cleaning techniques.—G. H. TENNANT CO., 2530 N. Second St., Minneapolis 11, Minn.

POWER TRANSMISSION, MOTORS, BELTING, LUBRICATION

201 V-BELT DRIVE CATALOG—This handy pocket-sized catalog helps you make quick and easy selections of any Dayton V-Belt Drive from 1 to 1000 H.P. Contains many concise, accurate drive tables, diagrams, and other important engineering data.—DAYTON RUBBER CO., Dayton, Ohio.

204 G-E MOTORS—Bulletin GEA-5338 contains information on the new line of life-time lubricated, unit-bearing FHP motors.—GENERAL ELECTRIC COMPANY, Schenectady 5, N. Y.

210 MOTOR BEARINGS—The 1952 edition of Johnson's Industrial Bearing Catalog is now available. Shows several new motor bearings added, along with the standard stock sizes.—JOHNSON BRONZE CO., New Castle, Pa.

214 THE INSIDE STORY OF TRICO RENEWABLE FUSES—Bulletin No. 1 explains the difference between Trico Powder-Packed and ordinary fuse link design. Quick reading, informative, profusely illustrated. Tells how maximum returns may be secured from fuse investment.—TRICO FUSE CO., 2948 N. 5th St., Milwaukee 12, Wisc.

221 OILER MANUAL—Highly informative and helpful manual explains in detail the proper application of Trico, Visible, Automatic Oilers to various bearing surfaces. Construction information and valuable suggestions.—TRICO FUSE MANUFACTURING CO., 2948 N. 5th St., Milwaukee 12, Wisc.

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256 METERED LUBRICATION—Bulletin 6A has 12 illustrated pages showing how central lubricating systems are applied to combers, roving frames, winders, knitters, looms, etc.—BIJUR LUBRICATING CORP., Rochelle Park, N. J.

260 LUBRICATION RECOMMENDATIONS—Complete listing of Gulf Oil Corp. recommendations for the lubrication of all parts of preparatory machinery made by C. G. Sargent's Sons Corp., including Sargent's Openers, Pickers, Dusters, Blenders, etc. Sargent is neutral in the matter of lubrication and leaves the entire subject up to owners and users of the machines and their lubricant suppliers. Copies of Gulf's recommendations are available by writing.—C. G. SARGENT'S SONS CORPORATION, Graniteville, Mass.

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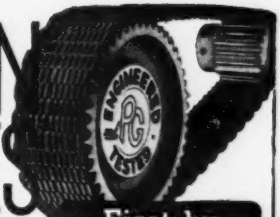

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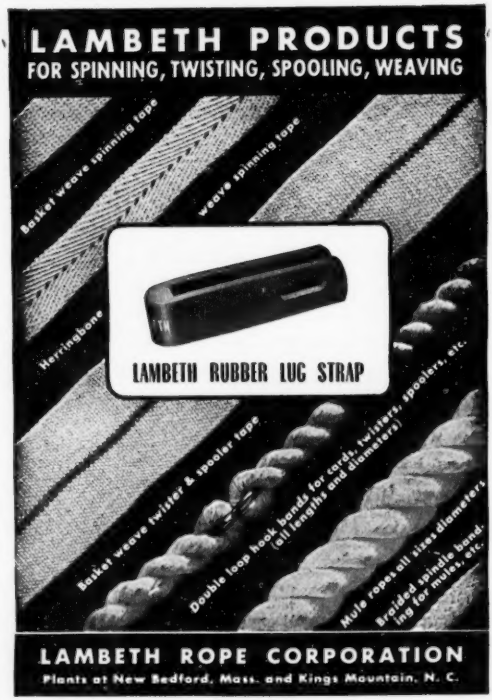
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CARDING, SPINNING, WINDING

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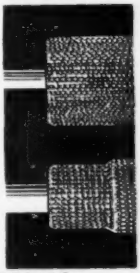

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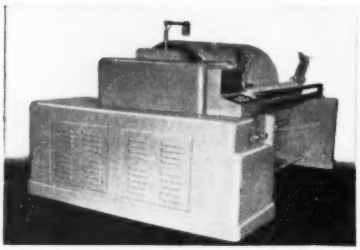

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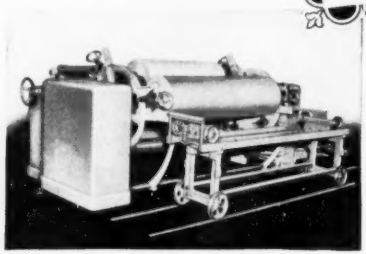

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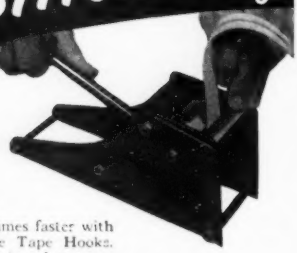

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464 **COILER CONVERSION**—Color brochure describing this company's new 15" coiler conversion for cards, combers, and drawing frames. The big package is discussed and the parts for conversion are pictured, along with advantages and savings gained by the conversion. —PETTY MACHINE COMPANY, INC., Gastonia, N. C.

WEAVING, SLASHING

503 **WEAVER'S KNOTTER**—A catalog on the Boyce Weaver's Knotter giving a few instructions as to its use, recommendation as to the proper type knotter for the various types of yarns, and the spare parts that go to make up the knotter.—A. B. CARTER, INC., Gastonia, N. C.

510 **THE ROMANCE OF PRAIRIE GOLD**—Attractive illustrated book which tells the story of corn and the uses of corn products to industry.—CORN PRODUCTS SALES CO., 17 Battery Place, New York, N. Y.

513 **SEYCO PENETRANTS FOR YARN CONDITIONING**—Folder describing the scientifically formulated Seyco sizing.—SEYDEL-WOOLLEY & CO., 748 Rice St., Atlanta, Ga.

514 **IMPROVED LOOM PARTS**—An illustrated catalog covering our complete line of HFL Improved Loom Parts is available for your particular type of loom. Please specify make and model, along with type of material woven. — H. F. LIVERMORE CORPORATION, Boston 34, Mass., and Greenville, S. C.

528 **PARTS CATALOGS FOR WPF&M SLASHERS, SIZE KETTLES AND PUMPS** — This 42-page illustrated catalog of parts contains exploded views and part numbers for quick identification. — WEST POINT FOUNDRY & MACHINE COMPANY, West Point, Ga.

DYEING, FINISHING, CLOTH ROOM

603 **DEPUMA**—An odorless, viscous, non-evaporating emulsion which is highly efficient as an anti-foam, useful in all phases of dyeing and printing.—AMERICAN ANILINE PRODUCTS, INC., 50 Union Square, New York, N. Y.

607 **DYEING OF TEXTILES**—Bulletin S-1336 explains how uniform results can be assured if process is temperature controlled. New regulator with electric pilot has indicating thermostat on which settings are changed by turning a knob. Diagrams of system.—SARCO CO., INC., New York City, N. Y.

625 **BALL BEARING ROLLER TYPE SCRAY** — Circular No. 904 describing the scray which is for use in handling heavy and large size rolls of cloth. This is used either in finishing plants or in the cloth room of cotton mills.—BIRCH BROS., INC., Somerville, Mass.

626 **GUIDER AND GUIDING EQUIPMENT** — This booklet entitled "Mount Hope Precision Guider and Guiding Equipment" describes this latest development in guiding equipment. The new guider, it is claimed, makes possible automatically controlling the lateral movement of cloth within closer limits than ever before possible. — MOUNT HOPE MACHINERY CO., Taunton, Mass.

627 **SINGLE APRON STOCK DRYERS**—Folder presenting the latest idea in automatic drying which every mill having drying problems can profitably use to meet modern manufacturing conditions.—C. G. SARGENT'S SONS CORP., Graniteville, Mass.

637 **BALL BEARING TURN TABLE** — Leaflet describing this 48" diameter steel turntable for use in mills where the cloth is delivered in rope form to trucks and the trucks are placed in position ahead of a scutcher or cloth opening machine. Advantages discussed. —BIRCH BROTHERS, INC., 32 Kent St., Somerville, Mass.

639 **ROTARY DYEING MACHINE**—Booklet No. 425 illustrating the features of these stainless steel machines used for dyeing hosiery, hats, gloves, socks, etc.—SMITH, DRUM & CO., Allegheny Ave. at 5th St., Philadelphia 33, Pa.

632 **LUG STRAP WASHERS**—Series 1-C illustrated bulletin detailing right and wrong application and use of washers.—E. H. JACOBS NORTHERN DIV., Danielson, Conn.

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KNITTING

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936 **FLAT BED SEAMING MACHINE**—Full information contained in Bulletin No. 936 on Type 1101 "W & G" Flat Bed Seaming Machine.—WILLCOX & GIBBS SEWING MACHINE CO., New York 18, N. Y.

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1001 **HOW TO DETERMINE WHERE OVERHEAD MATERIALS HANDLING EQUIPMENT CAN BE USED PROFITABLY**—Profusely illustrated. Gives clear, concise understanding of materials handling. Helps you to determine where and what equipment might be used to speed production and increase profits.—CLEVELAND TRAMRAIL DIV., Wickliffe, Ohio.

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1032 **ELECTRIC CHAIN HOISTS**—Bulletin 852 describing Robbins & Myers Type "JC" Electric Chain Hoists. Capacities 500, 1000 and 2000 pounds.—ROBBINS & MYERS, INC., Hoist & Crane Div., Springfield, Ohio.

MISCELLANEOUS

1104 **INTERPRETATION OF ANALYSIS** — In compiling this brief collection of terms which most frequently appear in analysis of surface active chemicals, an attempt has been made to explain as clearly as possible the meaning of these terms to those who have had little or no chemical training.—NOPCO CHEMICAL CO., Harrison, N. J.

1107 **AUTOMATIC QUILL POLISHER**—Bulletin describes production machine for refinishing loom bobbins. Tells how quills can be kept in perfect condition at minimum labor cost.—J. M. NASH CO., 2360 N. 30th Street, Milwaukee 10, Wis.

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1113 **MACHINE KNIVES**—Catalog and price sheets describing the company's line of knives for use on textile machinery. — TAYLOR-STILES & CO., 21 Bridge St., Riegelsville, N. J.

1114 **MAGNI-FOCUSER** — Brochures describing the Magni-Focuser as a device of featherweight construction which fits comfortably over regular eyeglasses, and has matched prismatic lenses which relieve eye strain yet magnify to needle-point sharpness and provide third-dimension vision. Many uses in textile field brought out. —EDROY PRODUCTS COMPANY, 480 Lexington Ave., New York 17, N. Y.

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March, 1952

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Light Resistance of Nylon

Prolonged exposure of nylon yarn to light causes a loss in strength and elongation, and affects other properties of the yarn, but does not cause discoloration of the nylon, according to a recent Nylon Technical Service Bulletin issued by the DuPont Co. The degradation, the Bulletin reports, is due primarily to the effect of light in the visible violet and blue range of wave lengths.

Sunlight exposure tests conducted on nylon yarn indicate that bright nylon yarns have essentially the same sunlight durability as cotton, linen, and bright textile rayon yarns of the same denier; better sunlight durability than silk and dull textile rayon yarns; and poorer sunlight durability than "Orlon."

Some of the factors reported to contribute to the degree to which nylon resists deterioration by light are: (1) type of fiber or yarn (bright or semi-dull); (2) filament size and thickness of the thread or fabric; (3) dyes, finishes, and other agents in or on the fibers; (4) type of exposure; (5) geographical location; (6) time of year when exposed.

The Bulletin's concluding comments on exposure tests were: "In selecting a fiber for any particular use, full consideration should be given to all the conditions which the material will have to undergo. Whenever possible, it is advisable to make durability tests under the same conditions as those which will be encountered in actual use of the product."

The New Serfdom

(*Continued from page* 167)

ments and their tax gatherers.

The mere possession of money is prima facie evidence of ability to pay it to a tax collector. No man is able to pay 90 per cent of his income to the government and still have in his hands the tools which he has proved himself capable of using for multiplying the wealth which is the real basis of taxation.

Genius which is capable of producing a million dollars is sterilized by the confiscation of nine-tenths of the money. On the other hand, had most of this money been left in the hands of the man with a genius for multiplying money, he would have invested it in job-producing and wealth-producing activities which would yield, in taxes prudently levied, a much greater amount than that which could be gained by confiscation of the original gain.

Our system of taxation is much like cutting off the limbs to get the apples. It is a quick, easy way to get apples, but it doesn't take into account next year's need for more apples.

ANOTHER FORM of virtual serfdom is practiced by the great labor monopolies, which in many areas have such complete control over all employment that it is impossible for a man to hold a job and earn a living without paying tribute to the particular monopoly which controls his trade. His terms of employment, and frequently even his employer, are determined by his union, and he has no voice in the matter. He strikes when he is told to strike; he pays what dues he is told to pay; he pays union assessments when these are levied, and they can generally be levied without his consent.

That some of these labor monopolies are benevolently operated, does not mean that they have to be operated that way. They possess the power to work great injustice upon any members of this new order of serfdom which resent their conditions. There are labor leaders in America today who possess the same absolute power over large groups of working men that some duke or earl possessed during the Middle Ages.

Doubtless some medieval masters were kind to their serfs, but they did not have to be—their authority over these peons permitted the exercise of harshness and cruelty. Some of the labor leaders in our new serfdom are

EXCEL

No. 1000 Fibre Truck For Long and Satisfactory Service

This is a sturdy truck upon which you can depend for long and satisfactory service.

Compare its specifications with those of any other fibre truck.

- .090 vulcanized fibre, securely riveted to hardwood rails with solid steel rivets. These solid rivets are placed at short intervals to prevent buckling.
- Hardwood solid or slatted bottom, sanded to a smooth finish.
- Heavy duty metal top rail.
- Heavy duty metal corners.
- Casters securely bolted to bottom.
- Finished in clear lacquer, or painted, for added protection against moisture.

Representatives:

Mr. N. W. Eurey.....Lincolnton, N. C.
Mr. Paul Eurey.....Lincolnton, N. C.
Industrial Suppliers, Inc.
La Grange, Ga.
Fall River Mill Supply Co.
Fall River, Mass.
Mr. Theodore Huston
2601 N. Broad St., Philadelphia, Pa.

EXCEL

Textile Supply Co.

"Excel Trucks Excel"

LINCOLNTON, NORTH CAROLINA

A Reliable Source for Custom Cut GEARS

Silent Chain Drives
Roller Chain Drives
Vee Cord Drives

Sprockets

Sheaves

Compounds

Write for Stock Sheet on Gears

FERGUSON GEAR COMPANY

Gastonia, North Carolina

KALEPON W

When used as a *protective colloid* in the *bleaching, dyeing,* and *carbonizing stripping* of wool — it is like putting fire insurance on your mill.

•

KALEPON W is a degradation product of Albumin. It acts as a buffer against *acids, alkalies, peroxide* and *stripping agents.*

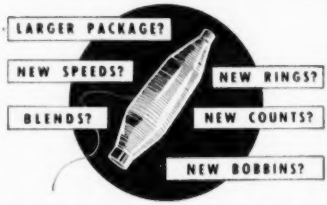
- The wool has more life to it; is loftier even when dyed with *Immedial Leuco Colors,* in *alkaline* bath.
- There is no deterioration of *strength* and *elongation. Excellent* for dyeing *cops* or *cheeses* in machine.
- It *levels the shade.*
- *No royalties* to pay when using KALEPON W as a *protective colloid* for stripping wool.

Send for technical data sheet.

KALI MANUFACTURING COMPANY
Manufacturing Chemists
427 Moyer Street Philadelphia 25, Pa.

What YARN changes are you making?

What TRAVELER changes will they require?



Wherever you feel a change in travelers would benefit, let U. S. men make suggestions and furnish test samples.

Prompt shipments from stock at Greenville, Providence

U. S. RING TRAVELER CO.
HOME OFFICE & FACTORY: PROVIDENCE, R. I.
SOUTHERN OFFICE & WAREHOUSE: GREENVILLE, S. C.

Write, wire or phone nearest office.

W. P. VAUGHAN, W. H. ROSE—Greenville, S. C.—Box 1048—Phone 3-0915
O. B. LAND—Athens, Ga.—Box 1182—Phone 478
L. H. MELLOR, JR.—Mid-Atlantic States—123 Treaty Rd.—Drexel Hill, Pa.—Phone Hilltop 0-1563
H. R. FISHER—Concord, N. C.—Box 83—Phone 8366
H. J. SMITH—Providence—Box 1187—Gaspee 1-0100

"What You Want When You Want It"

WONALANCET

Indian Cotton

SCIND TIPPERAH
COMILLA PUNJAB
BENGAL

WONALANCET COMPANY

128 Burke Street, Nashua, New Hamp.

Also, 153 Peachtree St., Atlanta, Georgia

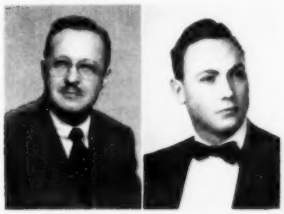
benevolent, but this is often the benevolence of expedience. The labor boss has the power to ruin any member of his union he wants to ruin, and if this outcast from the union tries to learn another trade and start over again from the bottom, there is nothing to prevent some malignant racketeer who wishes to punish him from speaking a friendly word to some brother racketeer who controls the destinies of the new union with which this industrial serf is then connected.

Many, if not most, of the heads of the big labor monopolies possess such power. Experience has always shown that the possession of power sooner or later leads to its exercise, where powerful restraints are not imposed and redress is not available to the injured party.

SUPPLIERS News

WHAT THEY ARE DOING

J. M. Johns is the new general manager of the **Libbey-Owens-Ford Glass Co.'s** Fiber-Glass division. He succeeds Robert E. Worden. The division has established a district



Mr. Johns **Mr. McClay**

sales office in New York under the supervision of Arnold K. McClay, whose headquarters are at 570 Lexington Ave.

Dr. Milton Harris, president of **Harris Research Laboratories,** was recently elected a Fellow of the New York Academy of Science. Other news is that Dr. Daniel Frishman, after two years with Hollander & Sons, has returned to the Laboratories and is engaged in developing and applying methods for improvements in the quality and processing of wool.

Quaker Rubber Corp., division of **H. K. Porter Co., Inc.,** has announced the election of H. M. Sossaman as vice-president in charge of commercial development. Mr. Sossaman has been with Quaker for more than 23 years. He is succeeded as general sales manager by J. R. Lewis, formerly assistant general sales manager.

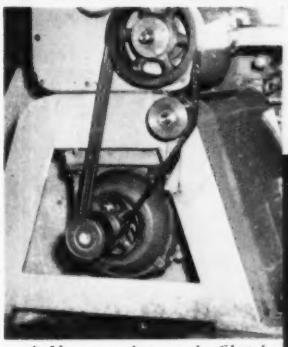
Donald J. Eccleston has been appointed general manager and Ira S. Hurd, sales manager, of the **Warwick Chemical Co.,** division of **Sun Chemical Corp.** Both men were formerly in the textile chemical department.

Walter L. Campbell was recently appointed advertising manager of **Monsanto Chemical Co.'s Merrimac** division. He succeeds Edmund Greene, now sales promotion manager of the organic chemicals division.

W. D. May was recently elected treasurer of **W. D. Dodenhoff Co., Inc.,** and its subsidiary, **Textile Equipment Corp.** W. F. Leineweber, Jr., is now vice-president of the latter firm, in charge of all engineering.

Charles H. **Scott, III,** of Philadelphia, and **John C. Folsom,** of Providence, have been transferred to the New York sales offices of **American Viscose Corp.**

The Baker-Raulang Co. has announced the appointment of Maynard W. McMillan as representative for the Baker line of industrial trucks in the southwestern Ohio territory. His headquarters will be at



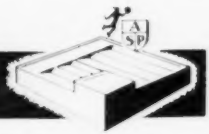
A Mercury Automatic Clutch Installed on a Cotton Comber.

The Mercury Automatic Clutch is the perfect solution to prevailing power transmission problems on textile machinery.

4 REASONS WHY A MERCURY AUTOMATIC CLUTCH IS A GOOD INVESTMENT

- ***INCREASED PRODUCTION . . .***
- ***UTILIZATION OF MAXIMUM MOTOR TORQUE . . .***
- ***SAVING OF MOTOR COST . . .***
- ***PROVEN DEPENDABILITY . . .***

Write today for a copy of Mercury Catalog TL-1



MERCURY CLUTCH DIVISION
AUTOMATIC STEEL PRODUCTS, INC.
CANTON 6, OHIO

in a stew about static?

Operating cost of the Simco "Midget"—the safest and most effective means of static elimination—is less than 1/10c per day! The initial expenditure, therefore, is essentially the only cost... and Simco prices are *lower* for the average installation. Write for free information.

the SIMCO company
920 Master St., Philadelphia 22, Pa.

"The Roving Frame"

by Fay H. Martin

Every carder, frame fixer, section man, and superintendent will find "The Roving Frame," by Fay H. Martin, an instructive pamphlet. Mr. Martin, who has long written articles for "Textile Industries," clearly interprets draft, twist, lay, tension, pressure of the presser, hyperbola curve, the winding of the bobbin, reverse twist on the roving frame, roving frame cones, tensions and compounds so that the student or practical man will profit by his explanation.

This is a reprint of 26 pages 8½ x 11 of a series of articles which were previously published in "Textile Industries," containing valuable information, illustrations, tables, charts and diagrams.

Fay H. Martin was a recognized authority on the roving frame. This book has been adopted by textile schools and vocational schools. May be secured in conjunction with a 3-year subscription to "Textile Industries" for $5.00 (Foreign, $11.00).

TEXTILE INDUSTRIES
806 Peachtree St., N.E. Atlanta 5, Georgia

Sterling Ring Travelers

SERVICE

Have you ever talked with a STERLING man?
He has a vast fund of textile knowledge, will not try any high pressure, but is just as human as you or I.
Invite him in the next time he calls, or write and make an appointment for him.

M. H. CRANFORD
Box 204 Chester, S. C.
D. R. IVESTER
Box 882 Clarksville, Ga.
T. B. FARMER
Box 150 Langley, S. C.
J. S. FURTADO
Box 803 Fall River, Mass.

STERLING RING TRAVELER CO.
FALL RIVER, MASS.

PENICK & FORD, LTD., INCORPORATED
CORN STARCHES, DEXTRINES, GUMS, CORN SUGARS & SYRUPS
NEW YORK, N. Y. - - - - CEDAR RAPIDS, IOWA
SOUTHERN OFFICES: ATLANTA, GA. - - - - SPARTANBURG, S. C.

John.
Those analyses which the Penick & Ford Textile Laboratory in Atlanta made for us certainly helped solve our warp sizing problems.
Jim

2320 Jessup Road, Cincinnati. A branch office at 100 South Gay St., Baltimore, has been opened by the firm, with Edward G. Matthew as manager.

Max Banzhaf succeeds E. Cameron Hawley, resigned, as director of advertising and promotion for the **Armstrong Cork Co.**

J. K. Stafford, formerly with Republic Steel Corp., is now associated with **Atlantic Steel Co.**

J. Albert Woods, president of the Commercial Solvents Corp., has been elected a director of **Corn Products Refining Co.**

Bjorn Andersen has been named technical director, and B. B. Allen and R. T. Armstrong associate research directors, of **Celanese Corp. of America.** H. J. Philipp, transferred to New York from the Narrows, Va., plant, will be co-ordinator of technical control.

Samuel Lipson and Harold Bick have been advanced to vice-presidents of **Commercial Factors Corp.** Anthony J. David and Carl T. Erickson are assistant vice-presidents; Emil Jakubecy is assistant secretary; and Fred W. Hautau has been made a member of the board of directors.

Murray H. Morse was recently named assistant to the general sales manager of **The Chemstrand Corp.** He was formerly with American Viscose Corp.

E. I. duPont de Nemours & Co., Inc., has announced the authorization of $510,000 for 75 post-graduate fellowships to 47 universities, and grants-in-aid to 15 universities, to "stock-pile" knowledge through the support of fundamental research.

Robert Scholes has been made vice-president in charge of engineering, and Roy D. Faigenbaum vice-president in charge of manufacturing, for the **Fidelity Machine Co., Inc.**

L. V. Potter, works manager and a director of **Muschamp Taylor Ltd.,** Manchester, England, recently visited a number of mill installations of Foster-Muschamp equipment in the United States. Mr. Potter made his headquarters with Foster Machine Co. while in this country.

Joseph Bancroft & Sons Co. has announced the appointment of Helen Delbar to head the Pacific Coast office of the "Everglaze" service department. A Los Angeles office has been established at 707 South Hill St.

John R. Hoover is the new president of **B. F. Goodrich Chemical Co.** succeeding William S. Richardson, whose responsibilities as vice-president of The B. F. Goodrich Co. will include the chemical firm. James C. Richards, Jr., has been elected vice-president, sales, and Allyn I. Brandt appointed general merchandising manager. The firm has also announced that distribution in the New England area of its processing size for nylon, called Good-rite TS-20, will be handled by Polymer Industries, Inc., Astoria, N. Y.

Mr. Richards **Mr. Brandt**

J. E. Rhoads & Sons began their 250th Anniversary Year on January 1, 1952.

SUPPLIERS & News — WHAT THEY ARE DOING

Roy F. Bristois has been made process pump specialist in the Peerless Pump division, **Food Machinery and Chemical Corp.** His headquarters will be at the firm's Los Angeles plant.

Cranston Print Works Co. has announced the resignation of Joseph P. Cuff, director of sales and merchandising and head of the firm's New York office.

Decorated Metal Manufacturing Co. has transferred its plant and office from Brooklyn to Milltown, N. J. The company manufactures metal bobbins for the nylon, silk, and rayon industries.

David W. Niven has been made advertising manager of **Lewis-Shepard Products, Inc.,** Watertown, Mass. He formerly was with Life magazine.

Owens-Corning Fiberglas Corp. has announced the appointment of Richard J. Lasko as sales promotion

Greater efficiency of LAUREL soaps, oils, finishes keeps your wet processing costs down —

Whether for fashion or industry, your yarns or fabrics will win greater favor, give greater service . . . and cost you less when they're processed with Laurel soaps, oils, finishes. Scientifically developed, laboratory-and mill-tested, Laurel wet processing agents are pure, uniform, dependable. Processors find Laurel products yield smoother, more efficient production, better dyeing, bleaching, finishing. Write or call the Laurel Technicians for recommendations.

Laurel Hydrosol
Laurel Wool Oils
Laurel Emulsions
Laurel Nynit C
Laurel Hosiery Finishes

textile soaps, oils, finishes
LAUREL SOAP MANUFACTURING CO., Inc.
Wm. H. Bertolet's Sons
ESTABLISHED 1889

2603 E. TIOGA STREET, PHILADELPHIA 34, PA.
Warehouses: Paterson, N. J. Chattanooga, Tenn. Charlotte, N. C.

How Much is YOUR PLANT losing because of

POOR VISION?

A sampling test, of a few of your own employees, will show how a Visual Testing program will give you the results that thousands of plants are reporting:

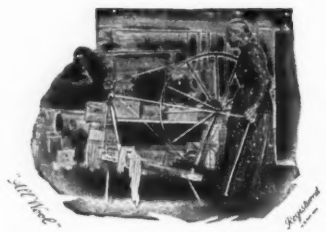
LOWER production costs and training costs; lower labor turnover; less spoilage; reduced accidents and insurance rates.

INCREASED efficiency, larger profits; increased employee satisfaction.

Write for *sample test* of a few of your below-average employees—or for *"What You Can Expect from a Good Vision Program,"* by a prominent industrial personnel director.

KEYSTONE VIEW COMPANY, Meadville, Penna. Established 1892. Originators of Binocular Vision Testing in Industry.

KEYSTONE *Occupational Visual Service*



KNOXALL

ROLLER, SLASHER AND CLEARER CLOTH
ENDLESS BLANKETS RAYON SLASHER JACKETS
ENDLESS REVOLVING CLEARERS

EDWARD H. BEST & CO.

Est. 1888 BOSTON, MASS. Inc. 1901

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185 Pinecrest Ave., Decatur, Ga.
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H. W. CURTIS
735 W. Crescent Ave., Allendale, N. J.
Allendale 1-3821

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Serving Perfectly • A Wide Variety of Duties

A Flexible Performer
Wherever Liquids are Used
TYPE-GGU
Aurora Side
Suction Centrifugal Pump
Discharge may be at any of eight positions. Only the pump end need be of special metals to handle corrosives. Combines numerous quality features for extra years of service. Write for Bulletin 107-M.

DISTRIBUTORS IN PRINCIPAL CITIES

AURORA Always PUMPS

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PUMP COMPANY

90 Loucks Street, Aurora, Illinois

J. E. SIRRINE CO.

GREENVILLE • SOUTH CAROLINA

Engineers

TEXTILE MILLS • RAYON PLANTS • KNITTING MILLS • DYE HOUSES
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FIT BETTER—WEAR LONGER

Precision-Built Kentex Aprons made to any specifications, on short notice. Write for free samples and prices. We are world's largest manufacturers of genuine leather textile aprons.

TEXTILE APRON COMPANY

EAST POINT, GEORGIA

Hugh Williams & Company, Toronto Canada—Canadian Representative

manager of its textile products division. Mr. Lasko was formerly manager of apparatus insulation sales.

Irving H. Verry, vice-president of **Crompton & Knowles Loom Works,** has announced his retirement after sixty-two years with the firm. Mr. Verry joined the company in 1890

Mr. Verry

as assistant in the drafting room. In 1913 he was made a director; in 1917 was chosen a vice-president; and in 1935 he became general sales manager, which position he relinquished in 1948.

A sales and service office at 3084 Grandview Ave., Atlanta 5, Ga., has been opened by **Leeds & Northrup Co.** Manager of the new office is William A. Macan, III.

Ivan F. Wieland has been named assistant to the corn division manager of **A. E. Staley Manufacturing Co.** Richard L. Nagle has succeeded

Mr. Nagle

Paul D. Doolen, resigned, as industrial sales manager. New sales representatives are: Wendell Ray, Philadelphia office; and Clint A. Pickett, Chicago office.

Proctor & Schwartz, Inc., has announced the appointment of Joseph P. Christ as manager of the firm's newly opened Spartanburg, S. C., sales and service branch. Walter Egbert, who represented the textile machinery division of the company in Greenville, S. C., has resigned.

William Albin, Edward A. Mayer, and John F. Sterling were recently elected vice-presidents of **William Iselin & Co.** Assistant vice-presidents are John L. Cole, Richard S. Perry, and John Feeks. Kenneth B. Beatty and Henry H. Lickel, vice-presidents, were elected also as secretary and treasurer, respectively. George F. Kegelmeyer is assistant treasurer.

Joh. Jacob Rieter & Co., Ltd., Winterthur, Switzerland, have established the **American Rieter Co., Inc.,** at 577 Kearny Ave., Arlington, N. J., to promote the sale of Rieter's spinning machinery in the U. S. and Canada. Rene O. Halter, secretary-treasurer, has been transferred from Sao Paulo, Brazil, to Arlington. Sales manager is John F. Dulken, and business manager is Carl Rosenthal, formerly treasurer of Rieter's representative, the American Textile Engineering, Inc.

A. C. Louden has been elected president of **The Louden Machinery Co.,** Fairfield, Iowa, succeeding his brother, R. B. Louden, deceased. Vice-presidents elected are W. L. Fry and R. W. Louden.

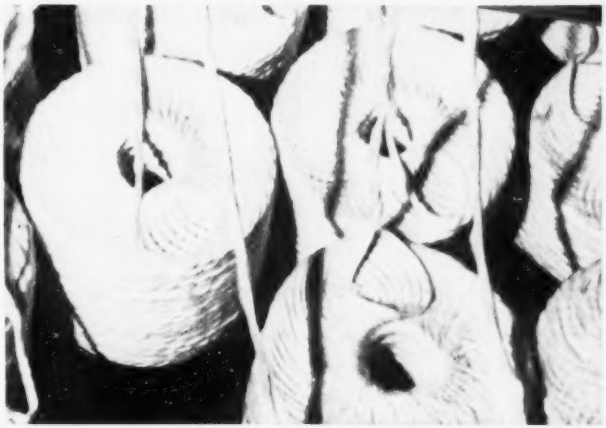
SUPPLIERS News
WHAT THEY ARE DOING

August B. Hepp, with the firm for 30 years, has been appointed chief engineer of **Logan Co.** He succeeds

Mr. Hepp

H. R. Gotthardt, who, though of retirement age, is remaining with the firm as consulting engineer.

On the occasion of his 50th year in the textile machine business, Peter Van Vlaanderen announced expansion of the plant facilities of the **Van Vlaanderen Machine Co.** at



From 90% to 100% Increase in Poundage of Sliver!

Increasing the size of a coiler head from 12 to 15 inches, we are able to produce up to a 100% increase in poundage of coiled sliver—and give perfect coilage in the can. It entirely eliminates the "hard core" caused by excessive overlapping in the center of the can. While falling into a much smaller pattern, the new coiling has absolutely uniform layer and conventional center opening. A time-study reveals that the new coiler head is resulting in an annual savings of $29,000 on 200 cards.

PETTY MACHINE COMPANY, INC.

612 E. Franklin Ave. **Gastonia, N. C.**

NEWEST anti-static treatment for synthetics

DEXTROL

LEKTROSTAT®

2% to 3% LEKTROSTAT, when added to the size mix for sizing acetate, nylon and dynel warps . . . gave these results:

Warps did not stick to cans; split easier at splitting bars; showed less broken ends. Warp was woven with less shiners, shedding and breakage . . . fabric appearance was greatly improved. Size softener was eliminated.

Give us your problem . . . write

DEXTER CHEMICAL CORPORATION

TEXTILE CHEMICAL DIVISION • P. O. BOX 1, BLVD. STA., NEW YORK 59

Knitting and Warp Yarns

Cotton
4's to 30's

Viscose Rayon and Blends with Orlon, Vicara and Dynel
18's to 30's, single and ply

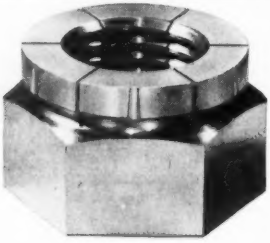
COMER-AVONDALE MILLS, INC.

Boston — Chattanooga — Chicago — Charlotte — New York
Philadelphia — Reading

representing

AVONDALE MILLS
Sylacauga, Alabama

COWIKEE MILLS
Eufaula, Alabama

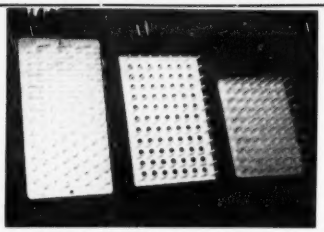


...THEY WON'T WORK LOOSE

FLEXLOC Self-Locking Nuts stay locked, no matter how severe the vibration. They serve equally well as stop nuts, because they lock in any position on a threaded member. FLEXLOC Locknuts are one piece, all metal *period!* Write for samples. Just let us know what size you need. STANDARD PRESSED STEEL CO., JENKINTOWN 34, PENNSYLVANIA.

FLEXLOC
LOCKNUT DIVISION

SPS
JENKINTOWN PENNSYLVANIA



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Plain or Anodized
Punched Base or Solid

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Available in either 80 or 96 pin type for use with Abbott Automatic Winders.

Other types of special boards made to order. Prompt quotations and delivery.

Manufacturers of aluminum section and Tricot Beams.

BRIGGS-SHAFFNER COMPANY

500-540 Brookstown Ave. (Tel. 22571) Winston-Salem, N. C.

BARNES SERVICE *Consulting Engineers*

TO THE TEXTILE INDUSTRY FOR OVER ½ CENTURY

Surveys–Reorganizations–New Plant Developments for Cotton, Wool, and Synthetic Yarn and Cloth Processing, Bleaching, Dyeing, Printing and Finishing.

★ Plant Appraisals ★ Mechanical and Operating Surveys—New Methods ★ Scheduling and Planning ★ Work Load Studies, Job Analysis and Evaluation, with Incentive Plans ★ Standard Cost Installations ★ Cost Control Methods

Labormeter Burden-meter Waste-meter

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SERVING THE TEXTILE INDUSTRY OF THE WORLD — BT — HALF A CENTURY

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920-923 MONTGOMERY BLDG., SPARTANBURG, S. C.
European Agent, Ralph L. Hodara, 101 Réaumur, Paris 2

FREE *samples of* SHUTTLE FURS *on request*

Manufactured from imported New Zealand, Brown and Grey Opossum Hides. We make any width and grade of shuttle fur to be used in all types of weaving. Also whole Opossum Hides and Muskrat if desired. We have whole Sheepskin hides or cut in strips or pads. Strip fur cut to specifications and boxed in 50 foot rolls. Your inquiries and business will be greatly appreciated.

Write for our prices today!

MORRIS FUR COMPANY

P. O. Box 816 Telephone 6-5934 Burlington, N. C.

Paterson, N. J. More manufacturing space has been added, and land purchased for further expansion as the need arises.

William G. Perry has resigned from **J. E. Sirrine Co.**, because of ill health.

James R. Redmond was recently appointed vice-president of **Interchemical Corp.'s** textile colors divi-

Mr. Redmond

sion. He will continue also as New England district manager.

Stuart G. Keiller, associated with the firm for the past six years, has been named manager, Velon filament sales, of the **Firestone Plastics Co.** He is making his headquarters at the New York office of the firm, in the Empire State Building.

The new one-story plant addition of **Whitney Chain Co.** is being used for the manufacture of fabricated steel sprockets and pitch roller and conveyor chains.

Greenville (S. C.) Belting Co. has been named exclusive sales representative for **Tatem Manufacturing Co.**, picker sticks, in the states of North and South Carolina, Georgia, Alabama, and Tennessee.

H. M. Johnson, Inc., 272 N. Broad St., Elizabeth, N. J., recently organized by Harold M. Johnson, offers chemical manufacturers services covering every phase of marketing chemical raw materials to manufacturers of paints, varnishes, etc.

A new sales office and showroom has been opened by **Walton Laboratories** of Irvington, N. J., at 30 North LaSalle St., Chicago, Ill.

Herman H. Miller recently retired after serving 50 years with **Worthington Pump and Machinery Corp.**

"Certificates of Cooperation," for their role in supporting mutual American-European efforts by furnishing technical assistance to the Marshall Plan countries, were recently awarded by the United States government to **Westinghouse Electric Corp.** and **Robert Reiner, Inc.**

American Textile Engineering, Inc., Arlington, N. J., has changed its name to **Canusa Plant-Equipment Corp.** C. F. Dulken, Sr., continues as president, and C. F. Egues has been appointed vice-president in charge of sales.

To provide for its customers a more complete knowledge of its plant, personnel, and facilities, **Burkart-Schier Chemical Co.** of Chattanooga, Tenn., has made available a 38-page book which tells the story of the 30-year-old concern by means of pictures and captions. The textile manufacturing division of the company, which celebrated its 25th anniversary in May 1951, produces a full range of textile auxiliaries or wet processing agents.

Sidney Bertner Co., New York, N. Y., is now representing a group of southern cotton mills in addition to dealing in all types of yarns.

SUPPLIERS News
WHAT THEY ARE DOING

Walter M. Mitchell, vice-president of **Draper Corp.** in charge of southern territories, announces the appointment of Walter M. Brice, Jr., as manager supply sales for the Spartanburg, S. C. division. Mr. Brice as-

Mr. Brice

sumed his new duties February 1 under Donald Marshall, division manager, and will concentrate on the sale of loom repair parts and supplies. Mr. Brice is a resident of Spartan-

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General Electric's Southeastern District Offices

The headquarters offices for General Electric Co.'s southeastern apparatus sales district were officially opened on January 18, at Peachtree Road and 28th St., Atlanta, Ga. The expanded facilities include marketing departments for industrial electric equipment, transportation equipment, and other supplies for electric utilities. Also located in the new building are headquarters for Georgia sales. Carter L. Redd is district manager.

burg and has been in the employ of Draper Corp. since his graduation from the University of Georgia.

R. E. Waldo was recently named to succeed Milton L. Gearing, resigned, as general manager of **General Motors Corp.'s** New Departure Division. Mr. Waldo has been with the firm for 25 years.

Mr. Waldo

Ralph E. Thompson resigned recently as president of **Scott & Williams, Inc.**, for reasons of health, and has been made chairman of the board. Succeeding him as president is Richard H. Whitehead, formerly with the New Haven Clock Co. William A. Camp has resigned as vice-president.

The Lunkenheimer Co.'s 90th anniversary was observed at the 1952 sales conference in Cincinnati, Ohio. Effective January 1, a reorganization of the sales territories places sales activities into three divisions: eastern, under Melvin W. Pauly; central, under Harold H. Layritz; and western, headed by Charles W. Burrage, sales managers. District manager of the eastern division is R. J. Sardieck; central, E. R. Tiberman; and western, C. B. Rosser, Jr.

The **Material Handling Institute, Inc.**, and its 78 member companies recently elected L. West Shea, **The Union Metal Manufacturing Co.**, as president. First and second vice-presidents, respectively, are John C. Mevius, **American Engineering Co.**, and H. M. Palmer, **Lewis-Shepard Products, Inc.**

Pittsburgh Plate Glass Co. is planning to purchase a three-year-old factory at Shelbyville, Indiana, as a manufacturing facility for its new Fiber Glass division. The plant will have 147,000 sq ft floor space.

Edwin R. Jerome, with the firm since 1910, was recently appointed president and general manager of **Victor Ring Traveler Co.**

Mr. Jerome

Pollard Turman was recently elected president of **J. M. Tull Metal & Supply Co., Inc.**, succeeding Joseph M. Tull, now chairman of the board. J. F. Nation was elected vice-president. All other officers remain the same.

SUPPLIERS News
WHAT THEY ARE DOING

Allis-Chalmers Manufacturing Co. announces the appointment of William M. Wallace as assistant to the vice-president in the general machinery division.

George J. Muller was recently elected president of **Morningstar, Nicol, Inc.**, replacing Joseph Morningstar, now chairman of the board of directors. Succeeding Mr. Muller as executive vice-president is Murray Stempel. R. Mayson Foster is now treasurer and a board member.

Mr. Muller

Mr. Stempel

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236—Draper XK looms, 46" cloth, 20 harness dobby, M.C. Age 1940
286—Draper Modified D looms, 44" cloth, 20 harness dobby, M.D. Rebuilt 1947
250—C&K "Cotton King" looms, 4x1 box, 40" cloth, M.D.

3—Johnson Slashers 7 stainless steel drums, 62" wide x 30" dia. Brown Controls. Age 1949
1—Reiner H.S. Warper, 56" wide w/Sipp Eastwood Creel. Age 1949
180—Spindles Whitin Schweiter Quillers. Age 1949

10—Hinnekens Stainless Steel Dye Becks, 12' long
2—Hinnekens Conitnuous Boil-Off Machine, 66" wide x 30' long
1—Van Vlaanderen 120' Tenter Frame w/100' Nat'l Housing, 20 fans, 64" cloth. Age 1950
1—National Loop Dryer, 60' long, 108" sticks, 18 fans. Age 1950
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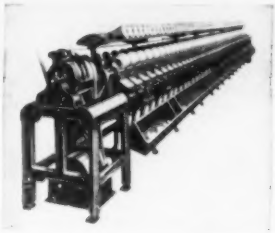

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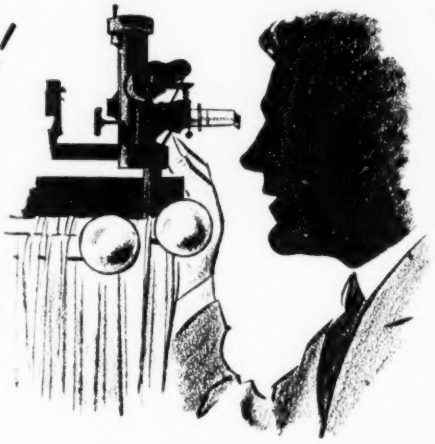
Willcox & Gibbs Sewing Machine Co. ..... *
Wilson Co., Emil V. ..... *
Wolf & Co., Jacques 18
Wonalancet Company 246

FIBER FARE . . . . . from Du Pont •

HE WATCHES FIBERS DANCE!

At Du Pont fiber research laboratories, scientists watch fibers "dance"—to get an accurate check on denier. It's done by sending waves of various frequencies through a fiber. When a certain "pitch" starts the fiber vibrating, the scientists can determine the denier. This is an important step in testing any man-made fiber . . . and man can control the denier to standards of perfection that nature can't attain!



"ORLON" FILTERS PAY DIRT FROM THE SKY!

The collection bags used with industrial smokestacks not only cut down on contamination in the air, but also save money for manufacturers by salvaging valuable particles of process products. Du Pont "Orlon" acrylic fiber has toughness, dimensional stability to hot exhaust gases, and resistance to acid fumes—qualities that make it an ideal fiber for soot-collecting bags.

DENIER MAKES THE DIFFERENCE...

In building man-made fibers, Du Pont scientists can not only give fibers *constant* denier thickness... but they can also *vary* the thickness for interesting textural effects. "Thick-and-Thin" rayon is a Du Pont development that is woven into drapes, spreads and apparel. The pleasing "raised" feel of the fabric—in honans, metallics and damasks—is an example of the great versatility in man-made fibers.

BIG SALES STORY STARTS HERE!

The consumer finds facts about man-made fibers in big-space ads like this, appearing soon in the February 23 *Saturday Evening Post*, March *American Magazine and* March 15 *Collier's*. Starting with an interesting "stopper" about research, the ad includes specific information about each of the five Du Pont fibers.

GIVE HER THE FACTS ABOUT FIBERS!

Today's shoppers are fiber-curious. They want to know the facts on the fiber content of garments. It's good business to be sure of the fiber content of the articles you sell . . . and it's *extra*-good business to pass the information on to all of your salespeople. Man-made fibers add value to an article. Let the selling facts be known!

Textile Fibers Department, E. I. du Pont de Nemours & Co. (Inc.), Wilmington, Delaware.

DU PONT

REG. U.S. PAT. OFF.

Du Pont makes only the fibers—not the fabrics or finished products shown.

RAYON
DACRON* polyester fiber
NYLON
ACETATE
ORLON* acrylic fiber

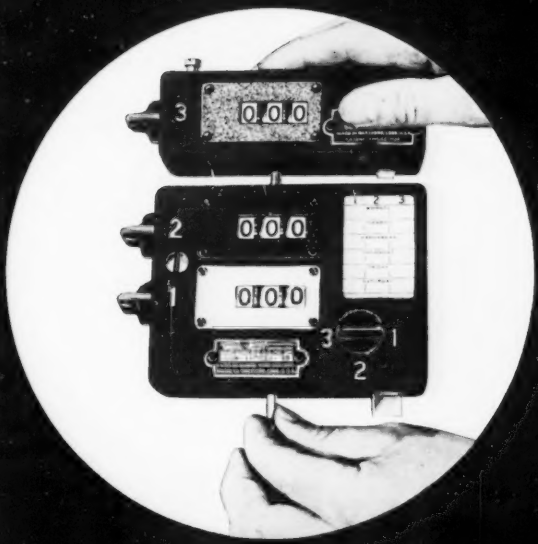
*DU PONT TRADE MARKS

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

DU PONT FIBERS ARE PLANNED FOR BETTER LIVING

Now

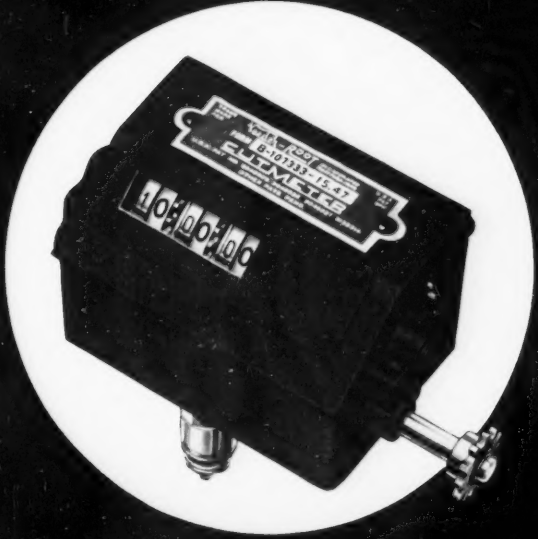
is the time to get LOOMS equipped for DRASTIC PRODUCTION DEMANDS ...with up-to-date



2-3 CONVERTIBLE PICK COUNTERS

VEEDER-ROOT COUNTERS

LOOM CUT METERS



COUNTROL is more vital now than ever before. How to keep costs down? How to keep production rolling at top levels? How to utilize workers' efforts with utmost efficiency . . . and pay for them most fairly?

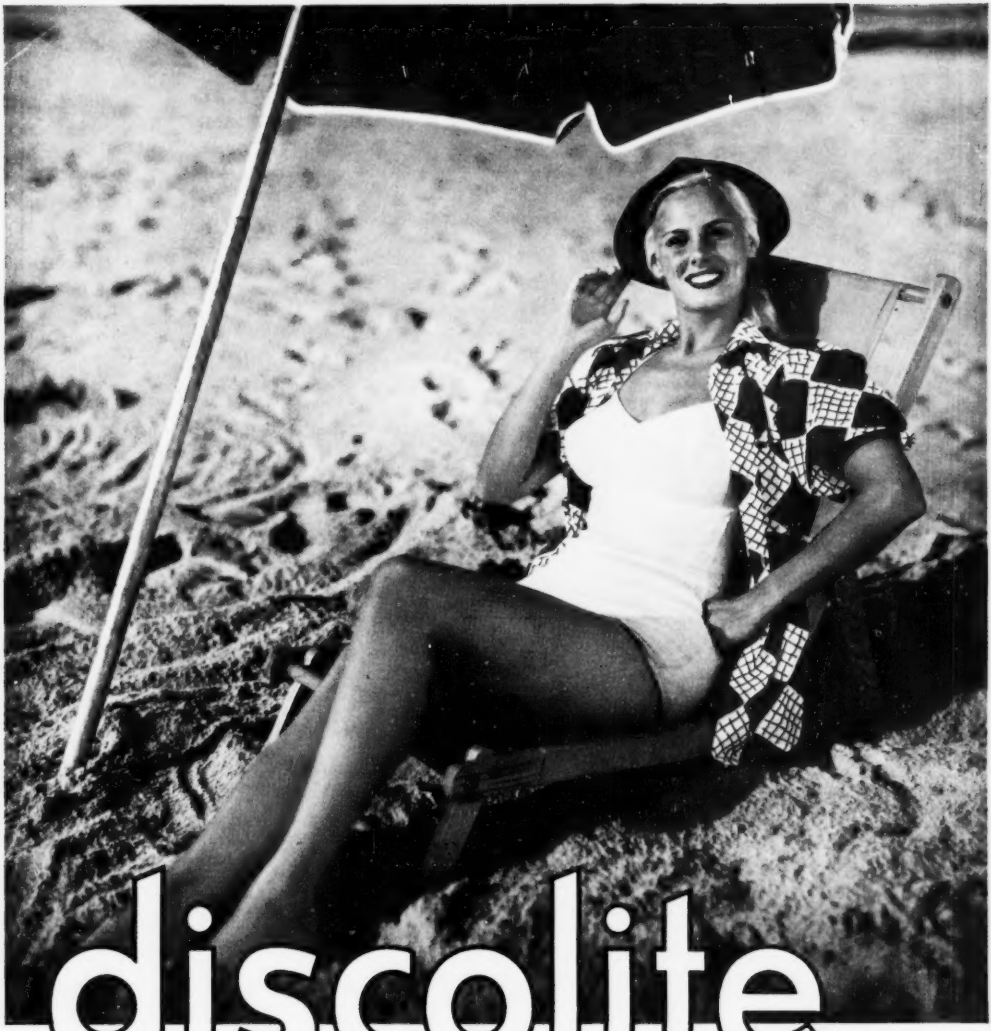
Questions like these can be answered with the help of accurate, up-to-the-minute figures provided by Veeder-Root Counters like the 2-3 Pick Counters and Cut Meters shown . . . quick and easy to read and reset. Let an experienced V-R engineer look over your operations from opening room to weave room . . . and see what savings he can add for you with Veeder-Root *Countr*ol.

VEEDER-ROOT Inc.

"Counting House of the Textile Industry"

HARTFORD 2, CONN.
GREENVILLE, S. C.

Montreal, Canada; Dundee, Scotland
Offices and agents in principal cities



discolite®

Concentrated Sodium Sulphoxylate Formaldehyde

Stable at high temperatures, Discolite is most effective as a reducing agent to effect solubilization of the vat color . . . is highly useful when the process calls for the reducing agent to be dried into the fabric as in printing without loss of its reducing properties.

Royce

CHEMICAL COMPANY • CARLTON HILL, NEW JERSEY

Manufacturers of Chemicals for the Textile Industry

G745